Transit Management Audit

OF THE

King County Department of Transportation

PREPARED FOR THE KING COUNTY AUDITOR

SEPTEMBER, 1999

JOHN T. DOOLITTLE & ASSOCIATES, INC.

PORTER & ASSOCIATES, INC.

in association with

CAMBRIDGE SYSTEMATICS, INC.

ROSKIN CONSULTING

MCCOLLOM MANAGEMENT CONSULTING, INC.

KILPATRICK CONSULTING GROUP

MARITA WELLAGE-REILLY

Summary

This Transit Management Audit for the King County Department of Transportation was conducted under contract to the King County Auditor.

Transit services in King County are managed primarily by the Transit Division of the Department of Transportation (DOT). The audit focused on policy and organizational issues associated with the merger of King County and the Municipality of Metropolitan Seattle ("Metro"). The merger was approved by voters in late 1992, initiated in 1994, and fully implemented in 1996.

The objectives of the audit were to:

- evaluate the integration of the Transit Division into the structure of the County, including the policy-making structure;
- identify potential efficiencies affecting Transit Division operations;
- evaluate the Transit Division's implementation of County policies;
- evaluate the Transit Division's financial policies and plans; and
- evaluate the effectiveness of the Transit Division's management controls.

We found that the merger improved the decision-making process for new services and related expenditures, and improved the efficiency and effectiveness of transit operations. Since the merger, transit service has been expanded by 19%, ridership has grown by 15%, and cost has increased 22% (just 9% net of inflation). These are remarkable results for a large urban transit system.

The merger also introduced changes in policy, administrative practices, and organization that have been difficult for transit managers and staff to understand and accept, particularly if the change increased the complexity or difficulty of doing their jobs. In some cases, these concerns abated with the passage of time and the increased familiarity of former Metro staff with the new institutional environment. Nonetheless, many legitimate concerns were expressed to us, and clear examples of policy and procedural conflicts were identified.

There are three general themes to our findings and recommendations. First, the special operational and administrative needs of transit should be more precisely articulated by transit staff, more clearly understood by other County staff, and should be accommodated when it makes good business sense to do so. Second, the Transit Division needs to expand its management focus to include greater attention

to the capital program, and to the evaluation of its resource allocation practices. Third, the County should delegate more authority to transit and elevate its stature within the Executive branch, to improve accountability for this critical public service and to facilitate the resolution of interdepartmental issues affecting transit service delivery.

Our key findings and recommendations are summarized below.

THE MERGER CREATED A MORE DECISIVE POLICY-MAKING STRUCTURE

Prior to 1994, transit services in King County were the responsibility of a special-purpose government — the Municipality of Metropolitan Seattle ("Metro"). The Metro Council, which was the legislative body of Metro, was comprised of 45 members at its end. Among its members were the King County Council, the King County Executive, the Mayor of the City of Seattle, the Seattle City Council, elected officials of suburban cities, and representatives from sewer districts and unincorporated areas. The breadth of interests represented on the Metro Council made the policy-setting process complicated and time-consuming. This is one of the factors that led critics of Metro to characterize it as a "staff-driven agency."

The merger of Metro and King County was initiated in 1994, slightly over a year after a November, 1992 public vote to merge the two governments. Accompanying the merger was an expansion of the King County Council to thirteen members, and the creation of three regional committees — the Regional Policy Committee, the Regional Transit Committee, and the Regional Wastewater Committee. These committees include representatives from the City of Seattle, suburban cities, and the County Council. The committees recommend the adoption of plans and policies to the County Council.

Since the time of the merger, the County adopted — and has largely implemented — an expansive six-year transit plan. Through 1997, transit service increased by 19% compared to pre-merger transit services. This is the largest service expansion since the late 1970s. It was accomplished at reasonable cost — the cost per hour for transit service increased at less than the rate of inflation during this period. Transit Division management credits the new Council and regional committee structure as instrumental in facilitating the development of the six-year plan and its implementation. According to these managers, it is doubtful that the Metro Council would have acted decisively on such a fast-paced and large service increase.

The mechanics of the merger, and its effect on the policy-setting process, are presented in chapter 1.

TRANSIT PERFORMANCE COMPARES FAVORABLY TO PEERS AND TO HISTORICAL TRENDS

The County's transit performance has been almost uniformly positive since the merger, though some functions deserve attention:

- Performance has improved since the merger. Cost per platform hour increased slightly (0.7% annually) since 1993, but fell by 2.5% annually in real terms (i.e., net of inflation), as did the cost per passenger boarding. Passenger boardings per platform hour increased by 0.3% annually. These results are remarkable given the large increase in service that occurred in this period — 19% more hours of service were operated in 1997 than in 1993, and passenger boardings are 15% higher. It is rare for a large urban transit system to achieve these results while expanding service so dramatically.

- Metro Transit is a more efficient operation than its peers, and its efficiency is improving. Operating cost per revenue hour is 4% better (i.e., lower) than the peer average, and has improved (i.e., declined) at an average annual rate of 3% since 1995.

- Metro Transit's performance with respect to effectiveness and cost effectiveness depends on how one measures the consumption of service. It ranked near the bottom of the peer group for boardings per revenue hour and operating cost per boarding. Metro Transit serves much longer trips than its peers, however. If these same statistics are viewed on the basis of passenger miles rather than boardings, Metro Transit's performance is much better than the peer average, and near the top of the peer group. In either case, cost effectiveness is improving.

- Some underlying trends in performance are unfavorable. Bus maintenance cost is higher, and reliability lower, than for the peer systems.

The peers and trends assessment is presented in chapter 2.

ONE IMPORTANT RESIDUAL POLICY OF THE METRO COUNCIL REMAINS IN EFFECT — THE COMPREHENSIVE PLAN FOR PUBLIC TRANSPORTATION

We found that Metro policies are now defunct, with one important exception.

The Long-Range Policy Framework for Public Transportation was adopted by the Metro Council as the *Comprehensive Plan for Public Transportation in King County* (resolution 6641, October, 1993). This was the first update of the comprehensive plan since 1982. It was prepared in conjunction with the regional transit plan adopted by the Joint Regional Policy Committee in 1993. This comprehensive plan is still in effect.

The comprehensive plan consisted of a series of goals, policies, and objectives that were intended to coordinate the provision of transit service, growth management policies, transportation demand management, commute trip reduction, and the regional transit project. The comprehensive plan became the basis for the six-year plan adopted by the King County Council in December, 1995. Among other things, the comprehensive plan established a formula for allocating operating subsidies to three subareas within the County, and called for a subarea-based planning process.

The conceptual foundation of the comprehensive plan is dated. For example, the plan was based on at least two assumptions that no longer apply: an extensive light rail system; and additional funding for bus services to be provided to local operators from the regional transit tax. Other considerations now affecting transit planning decisions, such as multimodal efficiency, were not a consideration at the time the plan was developed. Since the comprehensive plan policies guide the six-year plan effort, the County may want to confirm if the plan reflects its vision for public transportation.

Policies affecting transit planning are evaluated in chapter 6.

ALTHOUGH THE TRANSIT DIVISION COMPLIES WITH COUNTY POLICY, COUNTY POLICIES ARE OFTEN IMPOSED WITHOUT DUE REGARD TO TRANSIT

County policy toward transit is effected in several ways: by the strategies that guide the implementation of transit service in the six-year plan; by investment decisions made as part of the financial planning and budget process; and by administrative policies and practices that affect the conduct of everyday business. Our review found that the Transit Division complies with County policy.

County policies that have been specifically formulated for transit appear to be well considered and are generally beneficial in their effect. For example, the financial policies that guide the management of the Public Transportation Fund (PTF), the enterprise fund for transit provide substantial protection against inappropriate uses of the fund, and have instituted sound financial practice for renewal of plant and equipment. Also, the strategies that guide the six-year plan implementation provided fairly clear direction for resource allocation and intergovernmental cooperation. *These policies are explained in chapter 6.*

Policies adopted for the County as a whole, however, can introduce adverse effects on transit cost and effectiveness, even if beneficial to other parts of the County government. Several examples stand out:

- personnel policies, particularly the decision to cut salaries of some middle managers, and the lengthy process to complete the compensation and classification plan;
- procurement policies, particularly the restriction on procurement contracts over one year;
- accounts payable and receiving practices that result in delayed payments to vendors, sometimes resulting in demand for cash on delivery;
- payroll administrative procedures that are unable to deal effectively with the large number of exceptions that are inherent in the drivers' payroll;
- labor policy decisions that weaken the collective bargaining process, such as the FMLA exceptional provisions and proffering fringe benefits to part time drivers;
- transfer of the nonrevenue vehicle maintenance to the County's Fleet Administration Division, and the lack of responsiveness of that function to the seven day, 24-hour operation of the Transit Division; and
- the decision making process for changing or imposing administrative procedures without consulting Division managers.

For the most part, these policies were effected for the sake of consistency within the County, without taking into account special circumstances of a large, logistically complex, labor-dominated transit operation. Although input may be solicited from the Transit Division, this tends to occur near the end of the process. Rarely has the Transit Division participated in the formulation of policies and administrative practices.

There is a tendency within the Executive branch to view transit as just another County function. In fact, transit is the single-largest function in the County government. In 1999, it accounts for 20% of the County operating budget, 27% of its workforce, and 45% of its capital expenditures.

We observed a lack of constructive discussion between the Transit Division, other divisions of the Department of Transportation (DOT), other County departments, and the Executive offices when issues of incompatible or adverse policies and administrative practices are raised. Conflict is most apparent at the staff-to-staff

level; concerns are either not elevated to or not resolved by management of the respective divisions and departments.

The Executive branch needs to more carefully consider the impact of broad policies on transit operations. This should include, on a case-by-case basis, the option of exempting transit from county-wide policy, or taking into account transit-specific circumstances in applying county-wide policy.

Additional information on conflicts between County policy and transit operations is presented in chapter 1.

ORGANIZATIONAL CHANGES SINCE THE MERGER HAVE FRAGMENTED TRANSIT MANAGEMENT AND REDUCED ACCOUNTABILITY

Although the County Council-committee structure has greatly improved the focus of the policy-setting process for transit, other organizational aspects of the merger have introduced ambiguity, fostered intra-County intransigence, and diluted accountability for transit program management.

For the two years following the merger, the former Metro organization was left largely intact as the Department of Metropolitan Services. That department was disbanded in 1996, and its functions were integrated with other County departments. The Transit Division became part of the new Department of Transportation (DOT), along with four other divisions: Road Services, Transportation Planning, Fleet Administration, and Community & Administrative Services. Finance and budget functions were relocated to the Department of Finance; some of these subsequently reverted to the DOT (e.g., transit budget, grants).

The creation of the DOT masked the reality that the Transit Division functions much like a stand-alone department. The DOT was created to foster a multimodal approach to transportation, and to consolidate activities where efficient to do so. In fact, the Road Services Division and the Transit Division are unique technical activities, each covering a largely separate geography (Roads focuses on unincorporated areas, transit operates primarily on city streets and state highways). Although the ordinance that created the DOT required a formal report on opportunities to integrate transit and roads functions, a report was not submitted to the Council and no integration has occurred. Also, the DOT exerts little financial control over the Transit Division. The Public Transportation Fund (PTF) is managed by the

Transit Division, and the annual transit budget and capital programs are formulated primarily by Transit Division management.

The creation of a DOT has limited the consideration of transit-specific issues in the balance of the County government. The DOT Director must represent a wide range of transportation issues, and often delegates representation of transit issues to the General Manager of the Transit Division. But the General Manager is not a peer of other department directors, and accordingly his influence is limited.

Management of transit resources, though concentrated in the Transit Division, is distributed among other divisions of the DOT. One consequence of this arrangement is fragmentation of responsibility for executing transit's mission. There is no single entity responsible for: (i) planning transit service and capital programs; (ii) budgeting for these programs; (iii) implementing these programs; (iv) exercising financial control; and (v) monitoring and resolving interdepartmental and intergovernmental issues affecting transit. Although these responsibilities are theoretically the domain of the DOT, the tendency for the Transit Division to function as a stand-alone department creates ambiguity as to who is specifically responsible for these core business activities.

An organizational assessment is presented in chapter 7.

THE SIX-YEAR PLAN SHOULD BE MORE STRONGLY ORIENTED TO MANAGEMENT ISSUES AND THE IMPLEMENTATION OF SERVICES AND CAPITAL PROJECTS

Strategies adopted with the Six-Year Transit Development Plan (SYP) in 1995 provided a good foundation for guiding the development of tactics in the annual budget process, and were particularly valuable given the service expansion that has been implemented in the last three years. The plan has not been updated as intended, however, and the strategies are now out of date. Some elements of the plan — notably capital programs, a management plan, and benchmarks for evaluating success — need to be more specific to provide more effective control.

Responsibility for updating the SYP was transferred from the Transit Division to the Transportation Planning Division. We understand this transfer was intended to support the Executive's increased emphasis on multimodal transportation planning. We believe the SYP should be developed subordinate to the County's multimodal transportation strategy, but should be a distinct effort that is more narrowly focused on the provision and management of transit service. Accordingly it should be developed by the managers in the Transit Division who will be accountable for the plan's implementation.

A more appropriate role for the Transportation Planning Division would be to update the policy basis for the SYP, which is articulated in the *Comprehensive Plan for Public Transportation*. The current comprehensive plan was adopted by the Metro Council in 1993. It is based on assumptions that may no longer be appropriate, it does not have the multimodal emphasis that the Executive desires to achieve, and it may not reflect the vision or priorities of the King County Council. The method proposed by the Transportation Planning Division to update the SYP could be more effectively applied to a comprehensive plan update.

The Six-Year Plan and associated planning and control issues are reviewed in detail in chapter 6.

THE STRUCTURE OF FINANCIAL POLICIES AND PLANS IS ADEQUATE, BUT FORECASTS ARE MATERIALLY INACCURATE DUE TO CONSISTENT UNDER SPENDING OF THE CAPITAL PROGRAM

The financial policies encourage a conservative financial plan and budget, as they protect against downside risks and specify priorities for most uses of discretionary cash. The policies also protect the Public Transportation Fund from paying for non-transit activities — the allocation of general county overhead cost is linked to a specific methodology, and changes to financial policy must be considered by the Regional Transit Committee.

With the exception of the capital program expenditures assumption, all the assumptions in the financial plan are fairly reasonable for the situation that existed when the financial plan that we reviewed was formulated (July, 1998).

The capital improvement program (CIP) is not well-controlled. The fundamental problem is that expenditures, and by inference project implementation, substantially lag the plan. Large, positive variances existed between planned and actual expenditures in each of the three years (1996–1998) that we analyzed. These variances occurred across all constituent programs of the CIP, and across most projects. There is practically no visibility of capital project status. Because the CIP is a large and variable component of the Public Transportation Fund (PTF) financial plan, the inability to predict and control annual capital expenditures makes it impossible to gauge the effectiveness of allocating funds between the operating and capital programs. Correction of these deficiencies should be a priority of the Transit Division. An accurate picture of capital program needs and outlays will be a critical area of policy as the County updates the Six Year Plan.

MANAGEMENT CONTROLS DO NOT PROVIDE ADEQUATE VISIBILITY OF THE EFFECTIVENESS OF SIX-YEAR PLAN STRATEGIES

The Transit Division's system of internal controls provides a consistent basis for monitoring key aspects of its operating programs, including year-to-date performance against annual performance targets. As noted elsewhere in this report, operating performance trends are positive. This is a good indication that the controls system is working and is contributing toward performance improvement.

However, the Division's reporting systems make scant reference to the six-year plan. For example, though the plan had a strong geographic (e.g., three subareas) and service type (e.g., regional, local, community) emphasis, no performance statistics are reported at this level of detail. Also, progress against implementing the elements of the six-year plan is not highlighted in the reports. If the six-year plan is truly the policy basis for much of the Division's programs, the reporting structure needs to provide feedback on how actual outcomes compare to the plan's vision of the future. The current systems place too much emphasis on the annual budget process, and not enough on evaluating the effectiveness of the six-year plan strategies.

RECOMMENDATIONS

The audit recommendations are paraphrased in the tables at the end of this summary.

These recommendations encourage the County to delegate more authority to the transit function. We recommend that transit be a stand-alone department. Transit serves more County residents every day than any other County function. It has unique operational parameters — such as adhering closely to a finely detailed schedule — and poses unusual management requirements. It would form the largest department within the County. We believe that making transit a separate department would result in three important changes:

- it would elevate the priority transit receives in the development of Executive policy;
- it would provide a more direct route for resolving operational problems that span the responsibility of two or more departments; and
- it would sharpen the focus of transportation management to an area where the County has predominant control (transit) from an area where it has comparatively lower standing (multimodal transportation).

This change would take some time to effect, and there are collateral issues to consider (e.g., County-wide transportation planning). In the meanwhile, there are a variety of organizational and policy changes, of limited scope, that are recommended to resolve issues identified in the remainder of this audit report.

* * * * *

The remainder of the report is comprised of the following chapters:

1. Policy Impacts of the Merger
2. Peers and Trends Assessment
3. Paratransit Operations
4. Demonstration Projects
5. Support Activities
6. Financial Policies, Plans, and Controls
7. Organizational Assessment

The table of contents follows the recommendations presented at the end of this summary.

Summary of Transit Audit Recommendations

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chapter	subtopic	recommendations
1. Policy Impacts of the Merger	—	1.1 The work of the merger transition teams that produced the assessments of the policies and procedures of the County and Metro should be revisited, and teams of Metro and county administrative managers should work to determine the best means of reconciling county policies and real transit needs where they conflict. 1.2 The County should expand the application of the Personnel Forum model to improve interdepartmental communications on matters related to centralized administrative services. 1.3 The County should improve the communication of its policies to the Transit Division. 1.4 The County should revise its ordinance that limits purchase contracts to one year in duration, so that multi-year contracts can be let when it can be reasonably anticipated to result in cost savings.
2. Peers & Trends Assessment	—	2.1 Metro Transit should establish a process for annually reviewing its performance against a peer group, using a set of performance measures similar to those used in this report.
3. Paratransit Operations	—	3.1 The Accessible Services staff should develop productivity performance measures and include these standards for both the operating contractors and the call center contractors. 3.2 The call center goal for passengers per service hour scheduled should be higher than the target number for passengers per vehicle service hour (trips actually delivered) since cancellations and no shows will reduce the 3.3 A simple formula should be used to determine the target for scheduled passengers per hour that will yield the desired passengers per vehicle service hour. 3.4 The Accessible Service staff should work with the contractors and develop a solution to the conflicting impact of the 30 minute window for scheduled pickups and the five minute deadline for users to be on-board the
4. Demonstration Projects	—	4.1 The County should organize its current and future “demonstration projects” under a set of policies and definitions that gives structure and purpose to the collection of activities as a whole, and to the role of individual projects within the overall program. 4.2 The County should implement a management process for the demonstration program that address each step in the life of a demonstration project, culminating in a decision about a project’s disposition. 4.3 The County should establish a project monitoring process that includes reports of the status of each active demonstration project.

Summary of Transit Audit Recommendations

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chapter	subtopic	recommendations
5. Support Activities	**Overhead Costs**	5.1 The County should implement one integrated accounting system as soon as possible.
		5.2 Metro Transit should revise the presentation of the auditor's report to be more consistent with the NTD reports with regard to the presentation of general administration expenses.
		5.3 Metro Transit should discuss with its external auditor the issue of materiality when the external auditors compare the operating expenses submitted in the NTD reports with audited financial data.
	Human Resources	5.4 The OHRM should establish the Transit Division as a primary client of its services and policies.
		5.5 The compensation-classification study should be expedited and concluded at the earliest possible date.
	Information Systems	5.6 King County ITS and the Transit Division should jointly develop and maintain one document that clearly delineates the functions and responsibilities between the two organizations.
		5.7 The County should expand its role in some generic functions currently performed by the Transit Division.
		5.8 ITS should take a more comprehensive and active role in establishing and monitoring County-wide information technology policies and procedures.
		5.9 The County and Transit Division should establish mutually agreed upon quality and performance measures and goals for all functions provided by the County for the Transit Division.
	Transit Technology	5.10 The Transit Division, in cooperation with ITS, should develop a comprehensive strategic information systems plan that describes goals and direction for information technology.
		5.11 The Transit Division should closely participate in the implementation of the new financial and payroll systems.
6. Financial Policies, Plans & Controls	**Financial Policies**	6.1 The County should adopt a financial policy for the PTF that explicitly links the capital program in the six-year plan to the capital project appropriations process.
		6.2 The Council should adopt a policy for the PTF that articulates a strategy for the acquisition of capital grant
	Financial Plan Assumptions	6.3 Improve the value of the financial plan as a communications tool.
	Resource Allocation	6.4 The Transit Division should confirm the allocation of new service subsidies, based on the subsidy requirements of the services implemented since 1995.
	Capital Improvement Program	6.5 Revise the project appropriations process to include separate authorization and appropriation steps.
		6.6 Centralize capital program management for construction projects.
		6.7 Report schedule and cost adherence on a regular basis.
		6.8 Perform post-implementation and in-process reviews of capital projects.
	Finance & Budgeting	6.9 Financial planning and budget functions should be consolidated in a single section within the Transit Division, under the direction of a manager.
		6.10 The new Financial Planning and Budget section should develop a new format for the annual operating and capital budget that links expenditures to the Six-Year Plan.
		6.11 Grant administration activities should be relocated to this section from the DOT's Transportation Planning

Summary of Transit Audit Recommendations

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chapter	subtopic	recommendations
6. Financial Policies, Plans & Controls, cont'd.	**Internal Controls & Performance Monitoring**	6.12 Modify the performance controls system to measure the effectiveness of six-year plan service strategies and to report progress toward implementation of the capital program.
		6.13 Modify the Top Tier Indicators report to include additional performance measures for bus, paratransit, and vanpool services.
		6.14 All program- or project specific action items should be reported in a planned versus actual format, and should identify the responsible manager.
	Six-Year Planning Process	6.15 Focus six-year plan efforts on a business plan for King County Metro Transit.
		6.16 Expand the capital program element of the Six Year Plan.
		6.17 Transfer responsibility for the Six year Plan and annual Transit Development Plan updates to the Transit
		6.18 Integrate the service evaluation system with the geographic and service-type breakdowns of the six-year plan.
7. Organizational Assessment	—	7.1 The County should create a separate Transit Department that is authorized to manage all transit programs and implement all County policies that are transit-specific.
		7.2 A new Finance and Budget Section should be created in the office of the General Manager, with responsibility for developing and overseeing conformance with financial plans and budgets.
		7.3 The General Manager and his staff should be responsible for the development and implementation of the Six-Year Plan, in partnership with the other transportation department officials.
		7.4 The General Manager should be responsible for identifying and leading the resolution of interdepartmental support problems, working with the appropriate administrative division managers.
		7.5 The General Manager should have a staff assistant who is an expert in county administrative procedures, whose job should be to lead the technical effort to resolve these issues.

CONTENTS

Policy Impacts of the Merger

From 1972 to 1992, Metro Transit was a department in an independent public agency — the Municipality of Metropolitan Seattle ("Metro"). The political boundary of this agency coincided with that of King County. The legislative body of the agency — the Metro Council — was comprised primarily of elected officials from local governments that sat on the Metro Council by virtue of their elected office. These members included the King County Council, the County Executive, the Seattle City Council, and the Mayor of the City of Seattle. The number of elected officials from other jurisdictions was determined by formula; representatives of sewer districts and several appointed citizens also sat on the Metro Council. This body, which totaled 45 members at its close, set policies for transit and for wastewater treatment.

A merger of King County and Metro was approved by the County's voters in 1992. Transit and wastewater were subsequently defined as municipal functions, and came under the legislative oversight of an expanded County Council in 1994. The merger was concluded in 1996, when Metro Transit became a division within a new Department of Transportation, and wastewater became a division within the Department of Natural Resources. With the merger, the County applied its own policies and procedures to the programs, services, and operations of these municipal functions. The transit management audit focuses only on the policies affecting transit.

This chapter examines the effectiveness of the transition to county governance from a policy standpoint. It responds to three questions posed in our scope of work:

- *What County ordinances, policies, guidelines, directives, and Executive Orders guide the Transit Division's actions?*

  County policy tends to affect transit in a broad manner, like it does other County functions. Very little policy is specific to transit.

  The Six-Year Transit Development Plan ("SYP") adopted in December, 1995 provides the most specific guidance for the deployment of transit resources. It includes a series of strategies that are based on the policies adopted in the *Comprehensive Plan for Public Transportation*, adopted by the Metro Council in 1993. The SYP is discussed in detail in chapter 6 of this audit report.

  The County's legal and policy framework affecting transit is described in *Relevant Laws, Ordinances, and Policies* later in this chapter.

- *How are these policies reflected in the operations of the Transit Division's programs, services, and operations?*

  The County's transit strategies, adopted with the SYP, have had a positive impact on the Transit Division's programs, services, and operations. Since 1993, service increased by 19%, passenger boardings increased by 15%, and costs increased by 22% (9% net of inflation). These results suggest that management actions taken to increase service have been cost effective.

  While these service-related policies have been beneficial, administrative policies and practices have often been a bone of contention between Metro Transit managers and staff, and their counterparts in other County departments. Some examples include:

  – little initial orientation of transit managers to County administrative policies and its legislative process;

  – the tendency of the County administrators to impose policy changes without consulting Transit managers, and without considering the potentially adverse impact on transit operations (see *Transition to County Policies* later in this chapter);

  – the tendency – at least at the outset of the merger – for transit division managers to resist imposition of county procedures, and to seek special exemptions from them;

  – the inability of transit division managers to make an effective case for exemption from County policies; and

  – poor intra-agency communications, exacerbated by an absence of formal opportunities to discuss problems created by the application of County policies.

  Many of the issues that have persisted since the merger relating to the provision of support and administrative activities to the Transit Division can be mitigated by improved understanding and teamwork. The recent efforts by the staff of workers' compensation illustrates this point. This experience needs to be repeated in a number of continuing administrative problem areas, such as accounts payable, procurement and contracting, compensation plan, labor relations, and nonrevenue vehicle maintenance.

- *Are there any current transit policy directives that originated with the Metro Council, and if so, are these policy directives inconsistent with County policies?*

  With one important exception, Metro policies appear to no longer be in effect. The Transit Division consistently complies with County policy, unless they are unaware of County policy affecting a particular situation.

  The one exception is the *Comprehensive Plan for Public Transportation.* This action by the Metro Council, which was adopted in October, 1993 (Metro resolution 6641), is the official set of policies for provision of public transportation within King County. It defines, among other things, an allocation formula for new transit services among three subareas in the County. It also defines how County transit services are to be integrated with the regional transit plan being implemented by Sound Transit. With the exception of the service allocation policy, the policies are broad and, in the absence of transit-specific County addressing similar issues, it is unclear if the comprehensive plan is inconsistent with County policy.

The remainder of this chapter presents background information on the merger, expands on the above findings, and lists our conclusions and recommendations with respect to the merger's policy impacts.

Please note that the resolution of some policy issues has organizational implications. Please see chapter 7 of this report for organizational changes that we believe will improve the development and implementation of policy, as it affects transit programs.

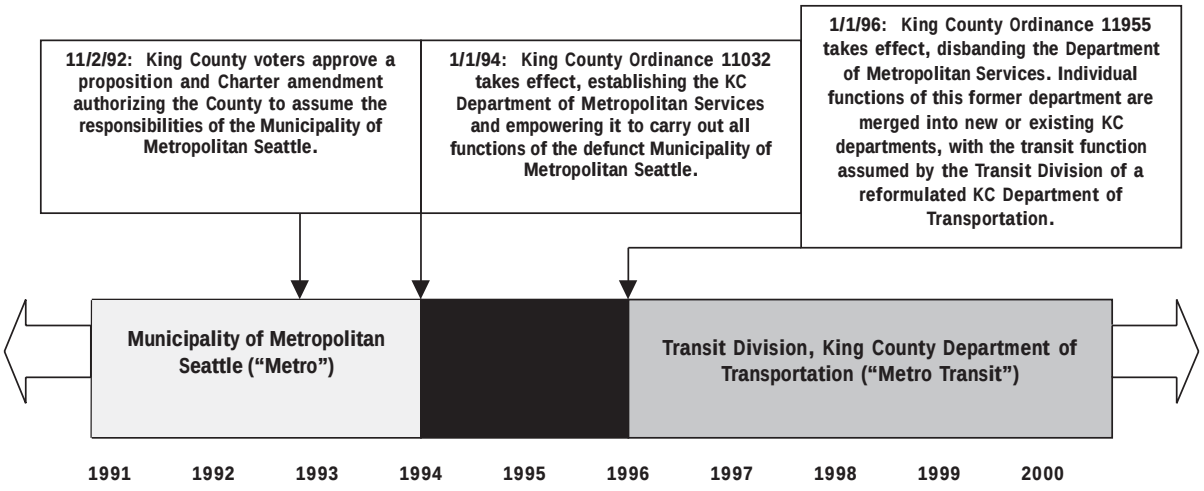
BACKGROUND

As shown in Exhibit 1.1 (page 1-4), the governance and organization of transit services in King County in the 1990s falls into three distinct phases.

- Municipality of Metropolitan Seattle ("Metro") provided transit service and other public services such as water quality. In accordance with a vote of the King County electorate, Metro and the Metro Council were disbanded in 1994, and the functions were transferred to the County.

- King County Ordinance 11032 transformed the former Metro into a King County department known as the Department of Metropolitan Services. This short-lived department assumed responsibility for all functions that had formerly been provided by Metro. The Department Director reported directly to the King County Executive.

Exhibit 1.1:
Transition to County Governance



- On January 1, 1996, the Department of Metropolitan Services was eliminated after only two years of existence and its functions were transferred to some new and some existing King County departments. King County Ordinance 11955 folded the public transit function into the Transit Division of a reformulated King County Department of Transportation, which also manages the county roads system and some transportation planning activities. The General Manager of the Transit Division reports to the DOT Director, who in turn reports County Executive.

Metro Transit is the County's largest single function. In FY99, the Transit Division accounted for 20% of the County operating budget, 27% of its employees, and 45% of its capital program (for details, please see chapter 7 of this report). It is larger than any other department in the County, and dwarfs the non-transit functions in the DOT. Clearly, its size alone argues for careful consideration of the impact of changes in policy on operating costs, labor, and capital programs.

Additional information on the organizational structure for Metro Transit, pre- and post-merger, is presented in chapter 7 of this report.

RELEVANT LAWS, ORDINANCES, AND POLICIES

Our review of documents germane to transit governance included the King County Charter, the King County Code, non-codified ordinances, King County Executive policies, and policies of the King County Department of Transportation and of the Transit Division.

A number of sections of the state code apply to transit system management and operations as well. Title 82 of the Revised Code of Washington (RCW), for example, deals with the disposition of the state motor vehicle excise tax, part of which is available to fund transit. Title 35 of the RCW houses those laws that pertain to municipalities and towns. Within Title 35, Chapter 35.38 addresses metropolitan functions, such as public transit. We did not review these aspects of State governance that affect transit, since these are irrelevant to the merger.

Our analysis of prevailing County law, ordinances, and policy as they affect transit is presented below.

KING COUNTY CHARTER

Originally adopted in 1967, and periodically amended, the King County Charter is equivalent to a constitution for King County. It defines the powers of the legislative and executive branches of the County government and sets forth the overarching rules that govern the administration of the County's business. The Charter cannot be amended by a Council vote. Amendments must be placed on the ballot and passed by a vote of the people.

The Charter's nine articles address the legislative branch, the executive branch, financial procedures, and elections, among other things. While the entirety of the Charter applies to all County actions, the following citations are of special significance for transit services.

- Article 2 (Legislative Branch). Section 230 specifies how County ordinances are introduced, adopted, and potentially vetoed. Subsection 230.10.10 specifically addresses ordinances related to metropolitan municipal functions, including public transit. Section 270 establishes three regional committees, including one for transit, and specifies the composition and duties of each regional committee.

- Article 3 (Executive Branch). Section 350 discusses administrative offices and executive departments of the executive branch of King County government. Section 350.20.30 establishes the Department of Metropolitan Services, effective January 1, 1994, and states that this Department must not be abolished, combined, or divided for two years. The elimination of the Department of Metropolitan Services, effective January 1, 1996, thus did not conflict with this portion of the charter. There is no language in the charter that explicitly mandates the organizational structure for transit.

- Article 4 (Financial Procedures). Among other things, this article sets forth the general rules by which the County budget is presented and adopted. In particular, Section 420 outlines the process by which the King County departments submit annual budget information to the King County Executive, who in turn submits an annual budget proposal to the King County Council.

- Article 8 (General Provisions). Section 815 sets forth general rules related to contracts and procurement. Section 850 permits any County officer (such as the King County Executive) to delegate authority (except veto power) to any other County employee under his control and supervision.

- Article 9 (Transitory Provisions). Section 920.20 deals with executive departments. Section 920.20.10 refers to the Department of Public Works, Utilities and Transportation. This department is now defunct, with its transportation now rolled into the current county DOT. This section of the Charter, initially enacted in 1967, contains language similar to that of Section 350.20.30, above, prohibiting changes to the Department of Public Works, Utilities and Transportation for two years (i.e., until 1969), but permitting rearrangements and divisions thereafter.

The Charter's only specific reference to transit deals with the Department of Metropolitan Services, which is now defunct. Thus, the Charter itself places no specifications on the transit policies, procedures, or organizational structure.

KING COUNTY CODE AND NON-CODIFIED ORDINANCES

King County ordinances constitute the laws of King County, and are the next tier of written policy that governs transit service below the Charter.

Ordinances may be codified or non-codified. Codified ordinances are recorded in the King County Code. The majority of codified ordinances pertaining to public transit are contained in Title 28 (Metropolitan Functions). Other parts of the Code with particular relevance to the Transit Division include Title 2 (Administration), Title 3 (Personnel), Title 4 (Revenue and Financial Regulation), and Title 20 (Planning).

Not all ordinances are codified. Ordinances deemed to be of a "general and permanent nature" are entered into the King County Code. When the need to codify a new ordinance is ambiguous, the Clerk of the County Council is responsible for deciding whether to add the ordinance to the King County Code.

Non-codified ordinances carry as much force of law as do codified ordinances. For the transit function, sample non-codified ordinances pertain to such "non-general" or "nonpermanent" items as supplemental appropriations and the terms of collective bargaining agreements or other labor negotiations. The annual King County budget is always an ordinance, but it is never codified.

All ordinances, regardless of codification, are on file in the Office of the Clerk of the County Council.

EXECUTIVE POLICIES

King County Executive Policies, Procedures, and Public Rules are maintained in the King County Executive Policy/Procedure System, within the Records and Elections Division of the County Department of Information and Administrative Services. Executive Policies are expressed in terms of public rules, executive orders, executive policies and procedures, and administrative policies and procedures.

Most of these rules are developed by executive branch managers and staff, and are issued under various sources of authority of the County Executive contained in the Charter or County ordinance. These rules typically apply to all departments within King County and to divisions thereof. Executive Policies concerning such over-arching activities such as procurement, personnel, and financial management govern the Transit Division's activities, just as these policies govern other County activities.

A few Executive Policies are specific to individual functions, including transportation management. As of January 1999, all Executive Policies concerning transportation apply to such matters as road adequacy standards and the procedures for forming a transportation improvement district. There were no Executive Policies that dealt with transit uniquely.

DEPARTMENT AND DIVISION POLICIES

The County's general policies typically apply to all subdivisions of the County government. At a finer level of detail, however, individual departments and divisions may establish their own policies and procedures so long as those detailed policies and procedures do not conflict with over-arching County policy. These lower level promulgations often are designed to carry out some directive from the Executive or Council.

Most departments, including the King County Department of Transportation, have established policies that govern the day-to-day administration of the relevant operations. For example, detailed financial policies provide specific direction for resource allocation. These are discussed in chapter 6 of this report.

In the case of the King County Department of Transportation, most published policies do not speak to the transit function per se. However, broad departmental policies concerning items of common concern (e.g., media contact, training, and enforcement of right-of-way code) apply equally to the Transit Division as to the other divisions of the Department.

POLICY DEVELOPMENT, APPROVAL AND IMPLEMENTATION

Considerable latitude may be exercised in the development and application of policy. With the exception of policies that commit funds, the vast majority of policies originate from the Executive. The Executive has full authority to delegate responsibility to subordinate managers. Thus, most exceptions or special circumstances that warrant transit-specific considerations could be accommodated in the current policy structure. A summary of policy development, approval process, and implementation practices is presented below.

POLICY DEVELOPMENT

Matters of County policy that involve the commitment of funds are usually handled through Council ordinances. Public transit fares, the approval of labor agreements, and the annual budget for the Transit Division are all examples of transit related actions that must be enacted as ordinances.

The vast majority of County-wide policies originate from within the executive branch. However, Council members may also present proposed ordinances for legislative consideration. The King County electorate may do so as well, through the initiative process.

APPROVAL PROCESS

Once a proposed policy is formulated into a proposed ordinance, the King County Executive presents the proposal to the Clerk of the Council. The Chair of the Council, with concurrence from the full Council, refers the proposal to the Council committee with jurisdiction over the matter at hand. For transit policy ordinances, this is usually the Regional Transit Committee.

The committee may reject, approve, or amend the proposed ordinance. After committee approval of the proposed ordinance, either in amended form or as proposed, the committee refers the ordinance to the full Council. The full Council similarly has the opportunity to reject, approve, or amend the referred ordinance. If the ordinance passes, and is not vetoed by the King County Executive, the Executive must implement the ordinance exactly as passed, regardless of how much it has been altered from the original proposal.

POLICY IMPLEMENTATION AND ADMINISTRATIVE PRACTICES

Administrative practices, as distinct from policy, are solely the responsibility of the executive branch. Section 220.50 of the King County Charter stipulates that no Council member shall interfere in the administration (i.e., executive branch), and must not issue orders to any employee of the County government.

When implementing County policy — whether through the development of executive or departmental policy, administrative practices, or otherwise — the King County Executive has full authority to delegate responsibility to subordinate managers. Decisions as to which officers will be responsible for developing a strategy for implementing any given policy are usually made on an case by case basis by the Executive.

For example, in the case of a policy to integrate land-use and transit decisions, the decision to allocate responsibility for developing certain park-and-ride lots to certain organizational units was made at the departmental level.

In the case of personnel policies, the County Council and/or the King County Office of Human Resources establishes certain policies regarding labor protections and directs the human resources section of the Transit Division to develop individual procedures and labor agreements that ensure compliance with these policies.

TRANSITION TO COUNTY POLICIES

When the County-Metro merger was first conceived, merger teams — comprised of County and Metro staff — performed a thorough side-by-side analysis of the policies of the County and the policies of Metro that dealt with common subjects. This review produced a new set of proposed policies that would combine or select the better of the County or Metro policy.

This approach, dubbed the "third way," was ultimately abandoned. Instead, the merger resulted in a wholesale replacement of former Metro policies with County policies. With few exceptions, County policy prevailed in the case of any difference between County policy and Metro policy. This overlay of County policies onto Metro practices has proved problematic in the estimation of participants both within the County's executive offices and the Transit Division.

Three years into the merger, the Transit Division closely observes County policies and accordingly, the Division's programs, services, and operations closely reflect County policy, for better or worse.

The impacts of County policies on transit programs, and related impediments to effective policy-making for transit, are discussed below.

IMPACTS OF COUNTY POLICIES ON TRANSIT

The effects of County transit service policies on Division actions have been positive. From 1993 to 1997, platform hours increased 19% while costs increased about 22%. At the same time, ridership increased by 15% — a considerable achievement in ridership attraction given the maturity of the preexisting route structure.

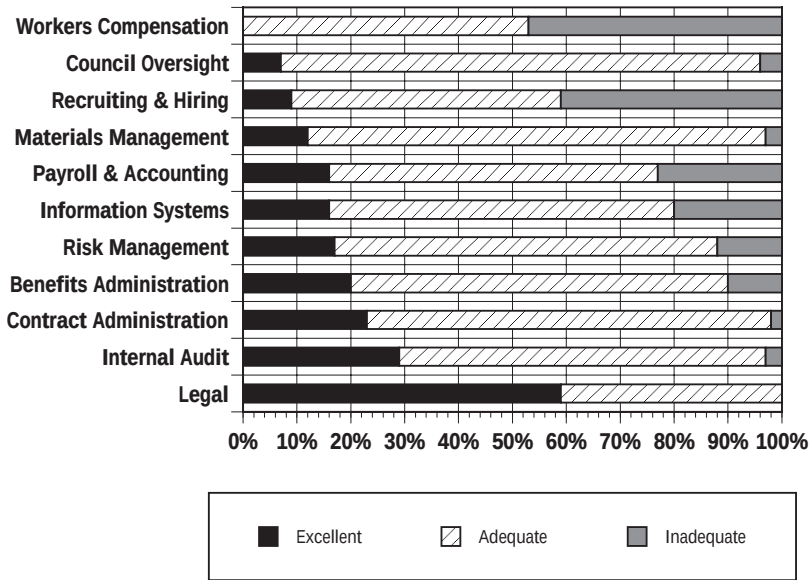
However, County policies dealing with administrative matters have not proven as effective in supporting the Division's mission. A survey of transit managers was conducted at the outset of this audit to determine the managers' view of the merger and its impact on the management and operations of the system. A summary of the results of this survey is provided in Exhibit 1.2 (page 1-11).

Transit managers pointed to a number of County-wide policies they consider to have had an adverse impact on their ability to deliver public transit services in a cost-effective manner. The policies and practices that were viewed to be problematic include:

- personnel policies, particularly the decision to cut salaries of some middle managers, and the lengthy process to complete the compensation and classification plan;
- procurement policies, particularly the restriction on procurement contracts over one year;
- accounts payable and receiving practices that result in delayed payments to vendors, sometimes resulting in demand for cash on delivery;
- payroll administrative procedures that are unable to deal effectively with the large number of exceptions that are inherent in the drivers' payroll;
- labor policy decisions that weaken the collective bargaining process, such as the FMLA exceptional provisions and proffering fringe benefits to part time drivers;
- transfer of the nonrevenue vehicle maintenance to the County's Fleet Administration Division, and the lack of responsiveness of that function to the seven day, 24-hour operation of the Transit Division; and
- the decision making process for changing or imposing administrative procedures without consulting Division managers.

Much of the negative reaction to the merger among managers was manifested in resistance to change during the early months of the merger. As time passed, a failure to resolve some continuing Division concerns has led to a deepening sense of frustration. Nevertheless, most Division managers have come to accept the fact of the merger and its implications for their jobs.

Exhibit 1.2:
Perceived Performance of Functions External to the Transit Division
(based on a survey of 45 Transit Division managers and their direct reports)



At least one source of problems between the Division managers and the County staff has been ameliorated during this period of the audit. One of the major complaints of the Division staff at the outset of this project was the lack of diligence on the part of the County's worker's compensation program administration. The new County manager of this function has established a close and effective collaboration with the Division management to improve the performance of this activity.

Most of the concerns noted above arose due to a lack of awareness of the sometimes conflicting needs of the general County government and transit. The examples below illustrate how policies that are supportive of County goals can impede or increase the cost of transit service delivery.

FAMILY MEDICAL LEAVE ACT

The Federal Family Medical Leave Act requires large employers to offer sick leave to employees who have family members requiring their assistance. The King County Council adopted an ordinance that applied benefits beyond the FMLA's provisions, resulting in a more generous sick leave policy than contemplated under the Federal legislation.

From the County's perspective, this policy is consistent with the County's desire to be a progressive employer. While the Division managers are not averse to this goal, they are not accustomed to improvements in the economic terms and conditions of employment of their represented employees without collective bargaining.

The extension of the higher-than-required family leave allowance amounts to an improvement in the previously negotiated fringe benefit package without the opportunity to use it as a trade off in negotiations. The more lenient sick leave policy will add to operating costs without being able to use this improvement in the fringe benefits as a bargaining chip to gain some balancing concession for management.

FRINGE BENEFITS FOR PART-TIME TRANSIT OPERATORS

Through Council and Executive action, the County mandated that the new contract with the Amalgamated Transit Union include provisions for fringe benefits for part time drivers. The Division can employ up to 47% of its drivers as part time drivers. The value of this fringe benefit package could not be traded off with any other aspect of the contract, given that the union knew it as County policy. This is notable considering the fact that the union does not view this proposal favorably. Transit managers see this as a lose-lose situation in which the provision if included will increase costs and will not lead to a trade off for work rule improvements or other buy-backs.

GRIEVANCE PROCEDURE

Another example of concern over the County's labor relations practices is the effort by the Office of Human Resource Management to be named as the final step in the grievance procedure for transit system employees in the ATU contract. This decision is founded on the grounds that a Council ordinance stipulates that the Director be the final step in County employee grievances.

The OHRM Director has the right to delegate that duty to a department head – and often does - and could delegate it to the Director of Transportation or the Transit General Manager and leave the contract intact. To introduce a negotiating objective for the sake of administrative consistency without regard to the overall balance of collective bargaining objectives reflects a failure to understand the nature of collective bargaining with the ATU, and an indifference to the overall bargaining objectives and strategy.

ONE-YEAR MATERIALS PURCHASE CONTRACTS

The County has not taken advantage of one Federal procurement procedure that could reduce the cost of vehicle maintenance materials and supplies. Federal procedures encourage multi-year contracts of up to three years, with two one-year extension options. The objectives of this federal guideline include increasing competitiveness in such contracts, and reducing the transaction costs of such contracts. County policies require one-year contracts.

By negating the historic, Federally encouraged practice of multi-year contracts of the Transit Division and Metro before it, the County will increase the costs of materials and supplies, reduce the interest of the marketplace in competing for such

contracts, and reduce the ability of maintenance managers to rely on consistent quality and service from its vendors.

CONFLICTS WITH FEDERAL REQUIREMENTS

When the County decided to impose its policies in place of preexisting Metro Transit policies, one unintended result was to create an entirely new set of issues for the Transit Division – whether the County's policies are consistent with the requirements of the Federal Transit Administration.

Some of the implications of the substitution of County policies and procedures can be seen in the recent Financial Management Oversight Review of the County. This periodic review sponsored by the Federal Transit Administration highlighted a number of issues that are in part a product of the transition from Metro to County administration.

Among these issues are:

- incorrect charging of County administrative expenses to Federal grant funds;
- maintenance of two separate accounting systems and general ledgers that do not interface;
- the lack of written accounting policies and procedures manual which incorporates the entire county operation;
- problems in accounting for force account labor;
- lack of timely reconciliation of bank statements;
- lack of timely preparation of quarterly financial status reports;
- lack of written policies and procedures covering grants management and project management;
- inaccurate entries of data in the fixed asset inventory ledger;
- lack of timely removal from inventory of scrapped fixed assets;
- absence of a written comprehensive procurement policies and procedures for acquisition of buses; and
- absence of certification by the County's Chief Financial Officer of a cost allocation plan.

The County has prepared responses, explanations, and proposed corrective actions for each of these issues. A number of these responses have to do with improvements that are part of the planned implementation of a unified accounting system.

The nature of these issues are similar to many of the issues raised by the division managers – particularly the lack of written procedures, and the problems associated with the difference between the general County requirements and the requirements that are specific to transit.

IMPEDIMENTS TO EFFECTIVE POLICY-MAKING

The policy-making process within the merged King County organization exhibits two distinct, but related, shortcomings. First, the process by which County policies are developed and subsequently applied to the Transit Division is often unilateral, and values consistency over consideration of transit-specific circumstances that may warrant waivers or variants of the County's preferred policy. Second, the resulting policies can reduce the ability of the managers of the Division to perform their work efficiently.

Both these shortcomings could be mitigated through more effective communications, and the establishment of a client relationship between the Transit Division and the County departments and offices that supply services or otherwise influence the effectiveness and efficiency of its services.

Every transit official interviewed as part of this audit reported an insufficient number of opportunities to meet with county administrators to discuss proposed new policies or to assess the functionality of existing policies. In contrast, County officials argued that the Transit Division's interests can be represented within several formal meeting opportunities, as displayed in Exhibit 1.3 (page 1-15).

The meeting opportunities displayed in Exhibit 1.3 represent a reasonable formal structure, but they are generally ineffective at supporting early communications on matters of policy development or implementation strategy. This is true for several reasons:

- with the exception of the Personnel Forum, none reaches far enough down into the Division itself to solicit a sufficiently broad range of viewpoints;
- too often they serve as a platform from which the County simply imparts information or issues directives in lieu of soliciting input from the Division; and
- none of these meetings compels active participation from anyone within the Transit Division, other than the Transit General Manager.

Notwithstanding the meeting opportunities displayed in Exhibit 1.3, the level of communications and collaboration between the County and the Transit Division remains inadequate. The absence of occasions to discuss and address problematic policies denies the County the benefit of the Transit Division's collective experi-

Exhibit 1.3:
Formal Opportunities for Intra-Agency Dialogue

Group	Membership	Frequency
Cabinet	King County Executive; Directors of all King County Departments	Weekly
Management Team	Director of the King County Department of Transportation; Managers of all five Transportation Divisions	Weekly
Advisory Group	Deputy Director of the King County Department of Transportation; Deputy Managers of five Transportation Divisions	Weekly
Personnel Forum	King County and Division section managers staff as appropriate	Monthly

ence. To make matters worse, it also reinforces the Division's impression of the County's tendency to allocate responsibilities and make unilateral policy decisions without soliciting or heeding input from the affected divisions.

Much of the County's and the Division's dissatisfaction with the current state of affairs relates to the provision of centralized administrative functions. In some cases the complaints relate to trivial matters, but in others, inadequate service levels can impede the efficiency of daily operations. Special areas of concern include accounts payable, information technology support, nonrevenue vehicle maintenance, personnel, and payroll.

On occasion, inadequate levels of service can be easily resolved through the simple introduction of the right person into the right job. For example, the Transit Division viewed worker's compensation administration as a constant problem area following the merger, noting lax monitoring of injured workers' conditions and the absence of a vigorous return-to-work program. Recently, however, a new individual was assigned to the workers' compensation area within OHRM and has led a substantial improvement in the quality of support in this important area.

How might the positive experience in the case of workers' compensation be replicated in other areas? One possibility is the institution of multi-disciplinary groups patterned on the Personnel Forum (described earlier) to address the operations of specific centralized administrative functions.

The institution of these groups could accomplish at least three positive results.

First, the necessity of airing these issues in open meetings would impose discipline on the widespread practice of finger-pointing and complaints by forcing County administrators and Division managers alike to balance the reasons for the policies with the practical problems that they present at the working level.

Second, it would provide managers an opportunity to confront ineffective or counterproductive policies and develop new approaches that have a better chance of satisfying the broad range of objectives typical of any County government of this size. It would also provide a forum for discussing possible exemptions for the Division from specific County policies that have an adverse impact on Transit management.

And finally, it would provide a basis for new or revised service level agreements which would create better partnerships in the provision of centralized functions.

RETENTION OF METRO COUNCIL POLICIES

With one important exception — the *Comprehensive Plan for Public Transportation* — Metro policies appear to no longer be in effect. The Transit Division consistently complies with County policy, unless they are unaware of County policy affecting a particular situation. Some implications of the comprehensive plan and the incremental transition to County policies as they affect daily operations are presented below.

COMPREHENSIVE PLAN FOR PUBLIC TRANSPORTATION

The Long-Range Policy Framework for Public Transportation was adopted by the Metro Council as the *Comprehensive Plan for Public Transportation in King County* (resolution 6641, October, 1993). This was the first update of the comprehensive plan since 1982. It was prepared in conjunction with the regional transit plan adopted by the Joint Regional Policy Committee in 1993. This comprehensive plan is still in effect.

The comprehensive plan consisted of a series of goals, policies, and objectives that were intended to coordinate the provision of transit service growth management policies, transportation demand management, commute trip reduction, and the regional transit project. The comprehensive plan became the basis for the six-year plan adopted by the King County Council in December, 1995. Among other things, the comprehensive plan established a formula for allocating operating subsidies to three subareas within the County, and called for a subarea-based planning process.

The conceptual foundation of the comprehensive plan is dated. For example, the plan was based on at least two assumptions that no longer apply: an extensive light rail system; and additional funding for bus services to be provided to local operators from the regional transit tax. Other considerations now affecting transit planning decisions, such as multimodal efficiency, were not a consideration at the time the plan was developed. Since the comprehensive plan policies guide the six-year plan effort, the County may want to confirm if the plan reflects its vision for public transportation.

DIMINISHING INFLUENCE OF METRO POLICIES

By their own admission, many managers within the Transit Division were initially reluctant to abandon their former ways of doing business while under the Metro governance model. Many of these managers confessed to an early inclination to overlook County policies when the policies of the former Metro Council were more familiar or more effective.

Today these managers portray themselves as County employees and explicitly acknowledge that it is necessary for them to learn and comply with County policies, but it is certain that the Division's transition to compliance with County policies has been incremental. Anecdotal evidence also suggests that the transition has often been situational, as specific problems arose in the context of specific transaction.

No training in County policies and procedures accompanied the merger. This resulted in many cases in which managers learned the policies for the first time in the course of business by trial and error. This made the transition both more difficult and more frustrating for the line managers who are trying to deal with a vendor whose bill has not been paid or an employee whose pay check is incorrect.

Although Division managers now generally endeavor to follow County policies, many section managers remain uncertain as to the content of County policy, both with respect to what to do and who is to do it. Several reasons for this uncertainty are cited by division managers. These include:

- the complexity of many policies make them difficult to understand; and
- the difficulty in keeping up with frequent changes in administrative practices.

CONCLUSIONS

- County policy has been effective in guiding the implementation of new transit service.
- Administrative policies and practices are often a source of friction between the staff of the Transit Division and the staff of other County departments who are in a position of enforcement. Division managers often see the application of County administrative procedures as arbitrary and unilateral, and sometimes adverse to the interests of the County. County managers tend to perceive the Division managers as resistant to change, overly protective of the historic practices of the Division, and inclined to exaggerate the special nature of the needs of the Division

- The administrative activities of the Division are not unlike those of the County as a whole – but there are some real differences need to be understood and accommodated in the development and application of county administrative procedures to the Division.
- The reality of the special operational and administrative needs of transit should be more precisely articulated by Transit, and more clearly understood by the County's staff, and should be accommodated when in makes good business sense and good public administrative policy.
- Metro Transit staff must be more accepting of the controls and restrictions that cannot be changed because they are governed by charter or state law.
- Many of the issues that have arisen and persisted since the merger relating to the provision of support and administrative activities to the Transit Division can be mitigated by improved understanding and teamwork. The improvement in the support by the staff of workers' compensation illustrates this point. This experience needs to be repeated in a number of continuing administrative problem areas, such as accounts payable, procurement and contracting, compensation plan, labor relations, and nonrevenue vehicle maintenance.

RECOMMENDATIONS

1.1 The work of the merger transition teams that produced the assessments of the policies and procedures of the County and Metro should be revisited, and teams of Metro and county administrative managers should work to determine the best means of reconciling county policies and real transit needs where they conflict.

1.2 The County should expand the application of the Personnel Forum model to improve interdepartmental communications on matters related to centralized administrative services.

1.3 The County should improve the communication of its policies to the Transit Division, by:

- taking inventory of existing County policy documents and prepare simple summaries of the substance of relevant directives;
- eliminating or revising duplicative or contradictory Executive Orders, administrative policies, and other directives; and

- preparing and publicizing brief guidelines to aid Division staff in performing common administrative tasks, such as the procurement of standard goods and services.

1.4 The County should revise its ordinance that limits purchase contracts to one year in duration, so that multi-year contracts can be let when it can be reasonably anticipated to result in cost savings.

To a considerable extent, the development and implementation of policies that are effective from a transit perspective have organizational implications. Recommendations for changes to the transit organizational structure, and the relationship between transit and other County organizational units, are presented in chapter 7 of this report.

Peers & Trends Assessment

This chapter presents the financial and operational performance of King County Metro in two contexts: (i) a comparison to a transit system "peer group" that shares similar operating characteristics; and (ii) an historical analysis of King County Metro alone, for the periods 1993–1997 and 1995–1997. The 1995-97 period was the focus of the trend analysis, since the former Metro was fully integrated with the County in 1996. The trend back to 1993 was also reviewed, since 1993 was the last year that the Metro Council directed transit operations in the County.

We reviewed transit performance at several levels of detail. At the system level, we focused on key indicators of cost efficiency (e.g., cost per revenue hour), effectiveness (e.g., boardings per revenue hour), and cost effectiveness (e.g., cost per boarding). Then, for motor bus and trolley bus operations, we examined this same set of performance indicators plus others (e.g., labor productivity) that provided a finer breakdown of modal performance. For paratransit and vanpool operations, we reviewed historical trends only, since these operations represent a smaller investment and because peer systems are more difficult to define.

We found that Metro Transit performs favorably, though some aspects of its performance deserve attention:

- Performance has improved since the merger. Cost per platform hour increased slightly (0.7% annually) since 1993, but fell by 2.5% annually in real terms (i.e., net of inflation), as did the cost per passenger boarding. Passenger boardings per platform hour increased by 0.3% annually. These results are remarkable given the large increase in service that occurred in this period — 19% more hours of service were operated in 1997 than in 1993, and passenger boardings are 15% higher. It is rare for a large urban transit system to achieve these results while expanding service so dramatically.

- Metro Transit is a more efficient operation than its peers, and its efficiency is improving. Operating cost per revenue hour is 4% better (i.e., lower) than the peer average, and has improved (i.e., declined) at an average annual rate of 3% since 1995.

- The effectiveness of Metro Transit's operations depends on how one measures the consumption of service. Metro Transit ranks near the bottom of the peer group when boardings are used to calculate effectiveness, and near the top if one uses passenger miles instead, simply because Metro Transit serves comparatively long trips. In either case, effectiveness is improving.

- The trends in system-wide performance reflect the characteristics of service added in the past three years. Paratransit service accounted for 65% of the new hours. This service has a lower cost per hour than motor bus or trolley bus services, and carries far fewer boardings per hour. These factors tend to improve system-wide unit costs, but mask improved effectiveness and cost effectiveness for motor bus services.
- Some underlying trends in performance are unfavorable. Bus maintenance cost is higher, and reliability lower, than for the peer systems. This is undoubtedly affected by the performance of the dual-mode bus fleet, but may be affected by other factors as well.

The remainder of this chapter presents some background information on the selection of the peer group and the interpretation of the peer group results, then presents additional analyses of performance for the system as a whole, for motor bus operations, and for trolley bus operations. These analyses are followed by conclusions and recommendations.

BACKGROUND

This section presents background information that is useful for interpreting the peer comparisons presented in later this chapter. This section addresses:

- use of the National Transit Database for peer and trend comparisons;
- selection of the Metro Transit peer group; and
- factors that influence interpretation of transit system performance.

USE OF THE NATIONAL TRANSIT DATABASE

The National Transit Database (NTD) is a system of operating and financial data maintained by the Federal Transit Administration (FTA). Most transit systems in the United States are required to submit a NTD report to FTA each year, detailing their financial and operating characteristics. Financial data are certified by external auditors, and all reports are validated by the Federal Transit Administration for compliance with the guidelines. The National Transit Database is still imperfect, but is recognized throughout the industry as the best available source of data for comparing one transit system to another. Also, in many cases, it is the best source for evaluating one system's performance over time, since the definition of accounts used in the NTD is often more consistent year-to-year than local accounting structures.

All comparative data used in the peer systems analysis were drawn from the National Transit Database (NTD) in 1997, which is the most current data available. Data used in the trend analysis were also drawn from the Metro's reports to the National Transit Database for the years from 1993 to 1997.

Four exceptions are noted in the trend data that constrained our analysis:

- The allocation of general administrative costs to Metro Transit was modified during the period of our analysis (1993–1997). This prevented us from establishing the impact of the merger on transit administrative costs.

- Casualty and liability costs, and services costs, are not reported according to NTD guidelines. Casualty and liability costs should be reported as a distinct expense object, but have been reported by the County as part of the "services" expense object. Services costs, as reported, also include County support department labor costs that are allocated to Public Transportation Fund. According to NTD guidelines, these should be reported for the appropriate expense object (e.g., non-operator labor). These reporting practices by the County limited our ability to examine cost trends by expense object.

- There are discrepancies between the NTD submittals and the financial statements produced from the annual financial audit. We relied on the NTD data to ensure internal consistency among all the data used in the peers and trends analyses.

  The three issues above are explored in more depth in chapter 5, Support Functions.

- The NTD definition of revenue hours changed during the analysis period. Originally, revenue hours included only the time that a vehicle was available for passenger boardings. The definition was changed in the 1995 NTD submittal to include layover time (i.e., time spent at layover points for schedule recovery). We used revenue hours as basis for comparing peer systems, since this statistic is not affected by extent of deadhead time (i.e., non-revenue trips, such as between a bus base and a route's start point), which can vary considerably among transit systems. We also used revenue hours for Metro Transit trend analysis between 1995 and 1997. For the 1993–1997 trend analysis, however, we used platform hours instead of revenue hours to normalize performance for differences in the scale of operation. Platform (or vehicle) hours include revenue time, layover time, and deadhead time.

SELECTION OF PEER TRANSIT SYSTEMS

A peer group comparison of urban transit systems is an analytical process based on available transit data, knowledge of traditional transit practices, and experience interpreting significant statistical results. Peer comparisons in the transit industry have improved over the years due to the refinement of the National Transit Database, that provides a common set of operating and financial statistics.

External factors that influence transit operations must also be considered in peer comparisons. For example, while peer comparisons are based on assumptions about the overall comparability of the peer transit systems, performance differences are frequently a function of local financial and operating policy, institutional, demographic, economic, topographic, and other practical factors that are not subject to the control of transit management.

Transit system performance is also influenced by stages of development and maturity, so trend results for individual transit system offer greater insight into overall performance that must be considered along with the peer transit system comparisons.

The Massachusetts Institute of Technology's research into the development of statistically valid peer groups suggested that a combination of any 12 or more systems may be selected for a peer transit system analysis. While the random selection of any 12 transit systems may be statistically valid, it is often not intuitively and logically acceptable to local decision makers. In consultation with the Transit Oversight Committee and Metro Transit management, twelve of the thirty largest urban transit systems in the United States were selected for the peer transit system analysis.

Exhibit 2.1 (page 2-5) displays the modes of operation and selected system-wide statistics for the peer transit systems. These systems were chosen in collaboration with the Oversight Committee for this audit, on the basis of factors such as system size, urban area characteristics, modes of transit operated, volume of service operated, funding sources, and governance structures.

Many of the peer transit organizations with larger bus operations have implemented light rail services. Even though our selection process focused on the identification of transit systems with bus-only or bus-dominant transit operations, only Milwaukee, Minneapolis-St. Paul, Oakland, and Houston do not operate fixed-guideway systems.

King County Metro is one of the largest operators in this peer group, ranking first in amount of service provided, second in operating cost, and third in annual passenger boardings.

A special peer group was selected for the trolley bus peer comparison. This group consisted of the trolley bus operations in Boston, Dayton, Philadelphia, and San Francisco, which are the only other operators of trolley bus service in the United States. Summary statistics for the trolley bus peer group are presented in Exhibit 2.2 (page 2-5). Within this group, Metro Transit is second in size to the San

Exhibit 2.1
Metro Transit Peer Group, 1997 Statistics
millions

System	Operating Expense	Revenue Miles	Revenue Hours	Passenger Boardings	Modes Operated
King County Metro	$ 275.6	51.5	3.5	96.4	LR, MB, TB, DR
Baltimore	248.9	34.3	2.4	103.5	CR, HR, LR, MB, DR
Cleveland	186.8	26.6	2.0	66.8	HR, LR, MB, DR
Dallas	208.8	35.7	2.5	59.3	LR, MB, DR (1) (2)
Denver	169.8	32.1	1.9	70.9	LR, MB, DR (2)
Houston	205.7	40.4	2.7	81.2	MB, DR (2)
Milwaukee	104.4	24.8	2.2	70.4	MB, DR (3)
Minneapolis	134.1	23.0	1.7	62.1	MB, DR (3)
Oakland	149.2	19.4	1.6	63.1	MB (4)
Pittsburgh	205.5	40.2	2.8	74.5	LR, MB, DR (5)
Portland	154.2	27.1	2.0	71.4	LR, MB, DR
San Francisco	282.6	24.3	2.9	217.6	LR, MB, TB, DR (4)
St. Louis	122.0	24.2	1.5	53.3	LR, MB, DR
Group Average	$ 181.0	29.3	2.2	82.8	
Metro/Average	152%	176%	159%	116%	
Metro Rank of 13	2nd highest	1st highest	1st highest	3rd highest	
Metro Trends					
% Change 1993-97	22.10%	27.60%	na	15.10%	
% Change 1995-97	16.20%	18.50%	15.70%	15.40%	

modes: CR, commuter rail; HR, heavy rail; LR, light rail; MB, motor bus; TB, trolley bus; DR, paratransit
notes:
1. Commuter rail service initiated in 1998 was not included in this report.
2. Contracts with private sector for major elements of bus services.
3. Paratransit services operated by separate agency.
4. Operates in service area of BART's rapid transit line.
5. Also operates an "inclined plane" to heights west of center city.

Exhibit 2.2
Metro Transit Trolley Peer Group, 1997 Statistics
millions

System	Operating Expense	Revenue Miles	Revenue Hours	Passenger Boardings
King County Metro	$ 34.9	3.3	0.5	23.7
Boston	8.1	0.7	0.1	3.6
Philadelphia	11.6	1.1	0.1	8.8
Dayton	7.5	1.1	0.1	3.8
San Francisco	78.1	7.1	1.0	80.8
Average	$ 26.3	2.5	0.3	24.3
Metro/Average	133%	129%	145%	98%
Rank	2nd highest	2nd highest	2nd highest	2nd highest
Metro Trends				
% Change 1993-97	3.90%	-1.90%	na	4.80%
% Change 1995-97	1.00%	-0.50%	1.20%	1.20%

Francisco trolley system, and is about double the size of next largest system (Philadelphia). Both Boston and Dayton are about one-third the size of Metro Transit's trolley operations.

FACTORS INFLUENCING COMPARATIVE PERFORMANCE

Peer comparisons need to take into account differences in operations, governance, and funding that affect each locality's decisions about the scale of transit service offered and its target markets. These factors can affect comparative performance, since some operations are limited to high-demand markets, while others serve a broader area.

Metro Transit shares some important characteristics with the peer systems, but in other ways is clearly different. Like Houston and Dallas, it is funded primarily with dedicated taxes collected throughout a large urban area, and accordingly is obligated to operate an expansive route network. Operationally, Metro Transit is the only system with a dual-mode fleet and a bus tunnel. And, from a governance standpoint, Metro Transit is the largest County-owned and operated system in the peer group. Only Milwaukee, which operates with a quasi-independent transit agency, has a County legislative body that sets transit policy.

While every peer transit system has unique characteristics, the transit systems also have common factors that form the foundation of sound peer assessment. These common factors include labor intensive operations, similar inventories of rolling stock, reliance on third party funding, interest in maximizing ridership, a focus on service quality, and cost structures and accounting systems that are virtually universal.

Some particular aspects of Metro Transit operations, governance structures, service area density, and funding that have some effect on the peer group comparisons are noted below.

METRO TRANSIT OPERATIONS

The peer assessment of King County Metro Transit is complicated by characteristics that differ from the peer transit systems.

Metro Transit operates a varied and somewhat complicated mix of transportation modes. Metro Transit's Waterfront Streetcar line, extensive vanpool program, extensive paratransit operation, and dual mode buses are dissimilar to the peer transit systems. Furthermore, as previously mentioned, only four other United States transit systems operate trolley buses. Mixed modes tend to create higher operating and maintenance costs, while increasing flexibility in service design and delivery.

Unlike some of the peer systems, Metro Transit is not the exclusive regional transit service provider. It operates in only one of several counties in the urban area. Most peer transit systems operate over multi-county regional service areas. Metro Transit's single county, activity center-based operation tends to reduce the extent of fixed route services that operate in less dense communities at greater distances from the urban core.

Other conditions that influence Metro Transit's operations include: (i) a service area with a comparatively low population density; (ii) the extensive percentage of route miles operated on streets with significant grades, which tends to drive up both fuel consumption and brake wear; and (iii) ownership of a bus tunnel that increases service complexity and expenses.

GOVERNANCE STRUCTURE

Governance of the peer transit systems reflects legislation that is distinct to each state. The major organizational form for larger transit systems is a regional, single-purpose, transit agency covering the entire metropolitan area. Six of the peer agencies follow this pattern — Cleveland, Denver, Houston, Pittsburgh, Portland, and St. Louis. Twin Cities also has a fully regional transit operation, governed by a regional planning agency that is also responsible for regional solid waste operations. Dallas's DART is a sub-regional, single-purpose transit agency that operates only in the Dallas portion of the Dallas-Fort Worth urbanized area.

Metro Transit is one of four systems selected in the peer group that is governed by a general-purpose government. The other transit systems are Baltimore, Milwaukee, and San Francisco. These general purpose governments tend to make transit investment decisions in a larger policy context. Also, those that appropriate transit funds from general revenues tend to be more critical of transit investments than special purpose transit agencies, or general purpose governments that have a dedicated revenue source for transit.

Governance of a transit system by a general-purpose county government is unusual among the larger transit systems in the country. Milwaukee County Transit is the only transit system in the peer group that is governed exclusively by a county and operates only in a single-county service area. The owners of the former private transit company were retained to manage the system under the operating and financial policy control of the County.

San Francisco Municipal Railway (MUNI) is managed under a city-county government structure. It is one of the providers of Bay Area transit services, four of which operate in the City — MUNI, BART, AC Transit, and the Golden Gate Bridge, Highway, and Transit District. AC Transit, centered in Oakland, provides trans-bay services and serves Alameda and Contra Costa counties. It is governed by an elected board of directors.

Baltimore's Mass Transportation Administration is under the state's Department of Transportation, and is managed by an administrator who reports directly to the state's Secretary of Transportation.

SERVICE AREA DENSITY

As noted above, service area density is an important factor that influences transit system operations, because density is a major determinant of a transit system's market potential. The greater the density, the more likely it is that increased levels of service will yield higher levels of ridership.

The NTD guidelines define service area as the geographic area served by the fixed route system, plus 0.75 miles on either side of the fixed route operation. Metro Transit generally uses the entire county area and population in the NTD reports, because it is authorized by charter to serve the entire county and provides van pool and paratransit services outside of the shed area of the fixed route system defined in the NTD guidelines.

In an effort to develop a reasonable surrogate for population and square miles of the service area that would approximate the NTD definition, the population and area of only the nine most westerly Council districts were used. This represents roughly 30% of the land area and 9/13ths of the population of the county. This adjustment was made to exclude very low density areas (e.g., the Cascade foothills) that are either not served or are very lightly served by transit.

Exhibit 2.3 (page 2-9) shows Metro Transit's service area population, square miles, and density compared to the corresponding figures reported for the peer transit system, using this definition of area and population

Metro Transit's service area density is less than half of the peer transit system average. Metro Transit ranks in the bottom third of the peer transit systems in population, area, and density, even with the fixed route service area and population adjustments. This suggests that Metro Transit will usually rank low in comparisons of service effectiveness, such as boardings per revenue hour, since lower densities imply longer trip lengths. Also, lower densities usually imply higher operating speeds. This condition will favor Metro Transit in service effectiveness comparisons involving vehicle hours or revenue hours (e.g., boardings per hour), and in cost comparisons involving unit costs per mile.

FUNDING

Sources of public funds for transit can influence the scale of transit operations. Public funds as used here refer to dedicated taxes, state and local government appropriations for transit, and Federal transit funds. Generally, transit systems with dedicated funding sources, like Metro Transit, tend to have higher levels of investment. This tendency varies among the peer systems, however, depending on

Exhibit 2.3
Metro Transit Peer Group
Service Area Density

System	Population	Square Miles	Population Density
King County Metro	1,153,246	660	1,747
Baltimore	2,077,667	1,795	1,157
Cleveland	1,412,140	458	3,083
Dallas	1,904,330	689	5,314
Denver	2,100,000	2,406	873
Houston	2,457,673	1,279	1,922
Milwaukee	990,700	243	8,049
Minneapolis	2,213,143	1,105	2,003
Oakland	1,086,254	241	4,505
Pittsburgh	1,523,198	775	3,958
Portland	988,284	2,946	335
San Francisco	778,100	49	16,010
St. Louis	1,924,726	2,354	818
Group Average	1,621,351	1,195	4,002
Metro/Average	71%	55%	44%
Metro Rank of 13	9th highest	9th highest	9th highest

construction activity (which draws higher levels of Federal funding) and local transportation investment preferences.

A summary of the federal, state and local appropriated funds, and taxes dedicated to transit by statute is presented in Exhibit 2.4 (page 2-10) for Metro Transit and the peer transit systems. These funds represent the total amount of transit funds expended on operations and capital projects for the fiscal year 1997. This is often different from the amount of funds raised through dedicated taxes and appropriated funds.

Metro Transit ranked fifth in total public funding, and third in public funding per capita. However, it should be noted that Dallas, Portland, and San Francisco, which had higher funding levels, operated and were rehabilitating or expanding light rail systems.

The range of funding by source and amount for each of the systems varies significantly among the peer systems. Some systems depend more heavily on state or local appropriated funds, some rely almost totally on dedicated transit funds, and some on a combination of these two major non-federal sources. Metro Transit is one of four systems that rely predominantly on dedicated regional transit tax sources, rather than federal or state funds.

Exhibit 2.4
Metro Transit Peer Group – Funding

System		Public Funds $mil	percent Federal	percent state & local	percent dedicated	Public funding per capita
King County Metro	$	315.8	21%	0%	79%	273.85
Baltimore		253.1	39%	61%	0%	121.83
Cleveland		230.6	25%	61%	14%	163.26
Dallas		321.1	14%	0%	86%	168.62
Denver		190.7	25%	0%	75%	90.80
Houston		415.4	18%	0%	82%	169.02
Milwaukee		79.1	22%	78%	0%	79.82
Minneapolis		86.0	11%	32%	57%	38.87
Oakland		129.4	13%	68%	18%	119.11
Pittsburgh		276.8	30%	70%	0%	181.72
Portland		361.8	49%	13%	39%	366.11
San Francisco		325.7	25%	75%	0%	418.55
St. Louis		117.5	26%	74%	0%	61.02
Group Average	$	232.3	26%	38%	36%	143.25
Metro/Average		136%	107%	2%	297%	191%
Metro Rank of 13		5th highest	6th highest	10th highest	3rd highest	3rd highest
Metro Trends						
% Change 1993-97		52.2%	291.7%	-53.6%	29.8%	
% Change 1995-97		11.1%	359.7%	-23.1%	20.1%	

notes:
Rankings and %-change for Federal, state & local, and dedicated funds are based on actual values, not the percentages in the chart.

SYSTEM-WIDE PERFORMANCE

System-wide performance refers to the collective performance of all modes operated by a transit system. We analyzed system-wide performance of Metro Transit from three perspectives: (i) before and after the merger; (ii) in comparison to the peer group and 1995–1997 trends; and (iii) internal trends affecting the system-wide results. Our findings from each of these analyses are presented below.

PERFORMANCE BEFORE AND AFTER THE MERGER

Our analysis of performance before and after the merger focused on high-level performance measures that are generally accepted in the industry as the primary indicators of system performance. These include: (i) cost per platform (or vehicle) hour, a measure of efficiency; (ii) passenger boardings per platform hour, a measure of effectiveness; and (iii) cost per boarding, a measure of cost effectiveness. We also examined changes in the components of cost per platform hour. We used NTD

data from 1993 and 1997 for this analysis. The analysis was limited to Metro Transit only.

A comparison of the performance measures for 1993 and 1997 is presented in Exhibit 2.5 (page 2-12).

Performance has improved slightly since the merger. Cost per platform hour increased slightly (0.7% annually) since 1993, but fell by 2.5% annually in real terms (i.e., net of inflation), as did the cost per passenger boarding. This reflects a 3.2% average annual change in the Seattle CPI-U, 1993–1997. We believe this adjustment is appropriate since labor costs are indexed to the CPI. Passenger boardings per platform hour increased by 0.3% annually. These results are remarkable given the large increase in service that occurred in this period — 19% more hours of service were operated in 1997 than in 1993, and passenger boardings are 15% higher. It is rare for a large urban transit system to achieve these results while expanding service to this extent.

Changes in the components of cost per platform hour are presented in Exhibit 2.6 (page 2-12). We focused on a subset of operating costs that excludes purchased transportation and expense transfers. Purchased transportation has increased dramatically, reflecting the rapid expansion of paratransit service, which is operated via contract. This is an extraordinary expense that is not indicative of general trends in operating costs. Expense transfers are primarily comprised of costs that are subsequently classified as a capital expense, and thus are not germane to the operating cost analysis.

For this subset of operating costs, the cost per platform hour declined by 4.5% since 1993. Unit costs declined in every category except services.

Reductions in the unit cost of direct operations can be attributed to higher productivity and improved management of operating expenses. Direct operating expenses include operators' wages, fuel & lubricants, tires & tubes, materials & supplies, and utilities. These totaled $27.98 per hour in 1997, a decline of $1.08 from 1993. These costs are dominated by operators' wages. The stability in operators' wages can be traced to scheduling efficiencies that are influenced by service consolidations and a lowering of the peak-to-base ratio, both of which are associated with the six-year plan adopted in 1995 (see chapter 6 for additional information on the six-year plan).

All other costs declined to $39.64 per hour in 1997, from $41.76 in 1993, a change of $2.12 per hour or 5%. These changes are difficult to parse due to changes in accounting practices. For example, services cost and casualty & liability costs are reported differently in 1997 than in 1993. In 1997, practically no costs were reported for casualty and liability; these costs were instead included in services. Services costs also included County overhead costs (e.g., CX overhead of ≈$9 million) allocated to the Public Transportation Fund, as well as traditional services

Exhibit 2.5:
System-wide MetroTransit Performance, Before and After the Merger

	1993	1997	change	average annual % change	average annual real % change
Operating Cost per platform hour	70.56	72.59	2.03	0.7%	-2.5%
Boardings per platform hour	26.17	25.39	(0.78)	-0.8%	na
Operating cost per boarding	2.70	2.86	0.16	1.4%	-1.8%
Platform hours (mil.)	3.20	3.80	0.60	4.4%	na
Boardings (mil.)	83.71	96.39	12.68	3.6%	na
Operating cost (mil.)	225.76	275.56	49.80	5.1%	1.9%

source: NTD reports for 1993 and 1997

Exhibit 2.6:
Changes in system-wide operating cost, before and after the merger

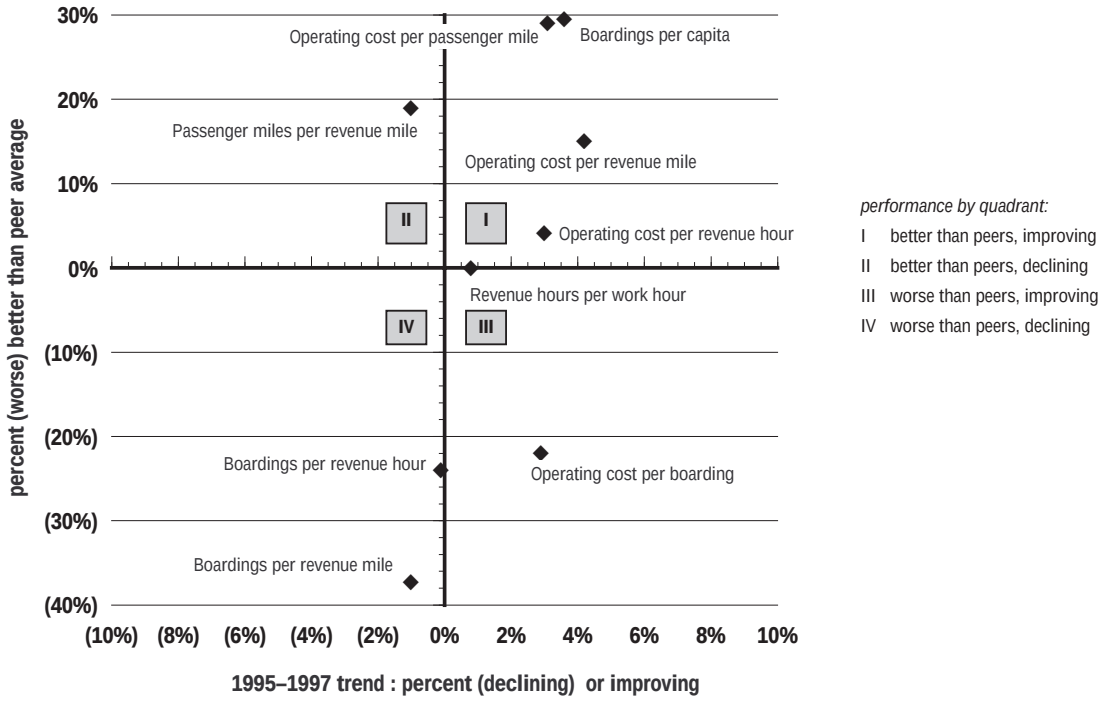
	1993		1997			
expense object	Operating Cost	Cost per platform hr	Operating Cost	Cost per platform hr	change in unit cost	% change in unit cost
Operators' wages	54,988,702	17.19	65,199,343	17.17	(0.01)	-0.1%
Other wages & Salaries	55,742,946	17.42	59,480,067	15.67	(1.76)	-10.1%
Fringe Benefits	55,928,360	17.48	62,123,035	16.36	(1.12)	-6.4%
Services (1)	11,951,938	3.74	27,129,862	7.15	3.41	91.3%
Fuel and Lubricants	7,150,935	2.24	7,672,728	2.02	(0.21)	-9.6%
Tires & tubes	2,581,397	0.81	2,310,407	0.61	(0.20)	-24.6%
Materials & Supplies	24,232,856	7.57	27,739,688	7.31	(0.27)	-3.5%
Utilities	4,010,114	1.25	3,311,780	0.87	(0.38)	-30.4%
Casualty & Liability (1)	7,781,566	2.43	(492,468)	(0.13)	(2.56)	-105.3%
Taxes	690,843	0.22	548,984	0.14	(0.07)	-33.0%
Miscellaneous	1,512,836	0.47	1,691,005	0.45	(0.03)	-5.8%
subtotal	226,572,493	70.82	256,714,431	67.62	(3.20)	-4.5%
Purchased Transportation	7,872,388	2.46	28,721,065	7.57	5.10	207.5%
Expense transfers	(8,687,896)	(2.72)	(9,873,185)	(2.60)	0.11	-4.2%
Total	225,756,985	70.56	275,562,311	72.59	2.03	2.9%
Platform (or vehicle) hours	3,199,361		3,796,335			

source: NTD reports for 1993 and 1997

note:

(1) Services costs in 1997 include most casualty & liability expense (≈$7.5m) and allocated overhead costs (≈$10m)

Exhibit 2.7:
Summary of Systemwide Performance (all modes)



source: National Transit Database reports, 1997 (peers), 1995–1997 (trend)

costs. Irrespective of these details, however, this activities represented by this set of costs were more provided more efficiently in 1997 than in 1993.

PEER GROUP AND TRENDS COMPARISON

A summary of system-wide performance is presented in Exhibit 2.7 (above). The chart provides a cross-classification of Metro Transit performance, in the context of both its peers and its own historical trends.

The four quadrants of the chart are used to classify performance as follows: (1) *better than peers and improving*, shown in the upper right-hand quadrant of the chart; (2) *better than peers but declining*, shown in the upper left-hand quadrant; (3) *worse than peers but improving*, shown in the lower right-hand quadrant; and (4) *worse than peers and declining*, shown in the lower left-hand quadrant. In this chart, "percent better than peers" means that Metro Transit has lower unit costs or is more effective than the peer average. "Percent improving" means that the average annual percent change over the past three years has been positive for indicators of effectiveness (e.g., boardings per capita), or that unit costs have declined. Trends in unit costs are expressed in real terms (i.e., net of inflation).

Metro Transit is a more efficient operation than its peers, and its efficiency is improving. Operating cost per revenue hour is 4% better (i.e., lower) than the peer average, and has improved (i.e., declined) at an average annual rate of 3% since 1995. Operating cost per revenue mile is 15% better than the peer average, and has improved at an annual rate of about 4% since 1995. The difference in these two comparisons reflects Metro Transit's comparatively higher operating speed.

Metro Transit's performance with respect to effectiveness and cost effectiveness depends on how one measures the consumption of service. It ranked near the bottom of the peer group for boardings per revenue hour, boardings per revenue mile, and operating cost per boarding. Metro Transit serves much longer trips than its peers, however. If these same statistics are viewed on the basis of passenger miles rather than boardings, Metro Transit's performance is much better than the peer average, and near the top of the peer group. In either case, cost effectiveness is improving.

Exhibit 2.8 (page 2-15) provides detailed comparisons of Metro Transit to its peer group. Some highlights of these comparisons are provided below.

SERVICE EFFECTIVENESS

Service effectiveness refers to the relationship between the amount of service provided and the amount of service consumed. Metro Transit's service effectiveness is influenced by its scale of operation — largest in the peer group — and the comparatively low density of its service area. These characteristics were noted earlier in Exhibits 2.1 and 2.3.

Metro Transit provides more service, relative to its service area, than nearly all its peer systems. It ranks first in revenue miles per capita, and provides nearly three times the coverage of the peer group average. Metro Transit ranks second in revenue miles per square mile of service area. It is second only to Milwaukee, which serves a much smaller area — only about 30% of the square miles served by Metro Transit.

Metro Transit ranks highest in boardings per capita, but ranks near the bottom of the peer group in boardings per unit of service (i.e., per revenue hour or revenue mile). The high per capita boardings reflects Metro Transit's high service level, noted above. The low rankings in boardings per unit of service reflect the comparatively lower density of Metro Transit's service area, and its long average trip length — nearly double the peer group average.

When the perspective on effectiveness shifts to distance traveled, Metro Transit performs near the top of the peer group, outdistanced only by San Francisco MUNI. Metro Transit averages 12.2 passenger miles per revenue mile, which is about 20% higher than the peer group average. This contrast with its boardings per revenue mile, which is 36% below the peer group average.

Exhibit 2.8
Metro Transit Peer Group
System-wide comparison, 1997

	EFFECTIVENESS							EFFICIENCY			COST EFFECTIVENESS			
System	Rev Miles per capita	Rev Miles per sq mile	Boardings per capita	Boardings per rev mile	Boardings per rev hr	Trip length	Pass Miles per rev mile	Op Cost per rev mi	Op Cost per rev hr	Rev Hrs per work hr	Op Cost per capita	Cap Cost per capita	Op Cost per boarding	Op Cost per pass mi
King County Metro	44.6	78,012	83.6	1.9	27.7	6.5	12.2	5.35	79.12	0.53	239	92	2.86	0.44
Baltimore	18.2	57,920	49.8	3.0	43.1	3.5	10.5	7.25	103.76	0.62	132	49	2.41	0.69
Cleveland	15.9	41,890	47.3	2.5	32.7	3.7	9.3	7.01	91.35	0.45	111	62	2.80	0.76
Dallas	11.2	24,718	31.2	1.7	23.7	4.7	7.8	5.85	83.27	0.46	65	69	3.52	0.75
Denver	21.1	69,858	33.8	2.2	37.8	4.5	10.0	5.29	90.58	0.46	112	31	2.39	0.53
Houston	13.9	34,265	33.0	2.0	30.2	5.1	10.3	5.10	76.48	0.33	71	58	2.53	0.50
Milwaukee	25.8	102,553	71.1	2.8	32.5	2.6	7.4	4.21	48.22	0.76	109	14	1.48	0.57
Minneapolis	11.0	21,601	28.0	2.7	37.4	4.3	11.6	5.84	80.78	0.39	64	4	2.16	0.50
Oakland	5.4	22,229	58.0	3.2	38.9	3.0	9.7	7.68	92.03	0.44	41	19	2.37	0.79
Pittsburgh	24.0	51,732	48.9	1.9	26.7	3.8	7.0	5.11	73.59	0.52	122	84	2.76	0.73
Portland	23.1	69,832	72.2	2.6	35.1	3.8	10.0	5.69	75.81	0.54	132	248	2.16	0.57
San Francisco	6.7	27,797	279.7	9.0	74.7	2.1	18.8	11.63	96.93	0.96	78	179	1.30	0.62
St. Louis	12.4	33,283	27.7	2.2	35.3	3.9	8.6	5.03	80.88	0.49	63	14	2.29	0.59
Group Average	15.7	46,473	65.1	3.0	37.3	3.8	10.1	6.31	82.81	0.53	92	69	2.35	0.63
Metro/Average	284%	168%	129%	64%	74%	173%	121%	85%	96%	99%	261%	133%	122%	70%
Metro Rank of 13	Highest	2nd highest	2nd highest	11th highest	11th highest	Highest	2nd highest	8th highest	9th highest	5th highest	Highest	3rd highest	2nd highest	lowest

source: National Transit Database, 1997. King County Metro population and land area adjusted (see text for method & explanation)

abbreviations:

Rev Miles	revenue miles
Rev hr	revenue hours
Pass Miles	passenger miles
Work hr	work hours (I.e., hours worked by all employees)
Op Cost	operating cost
Cap Cost	capital cost

These results raise the question of which is the best indicator to use. In a trend analysis of Metro Transit alone, trends in service effectiveness can be measured equally well by boardings per revenue mile, boardings per revenue hour, or passenger miles per revenue mile. It is the direction and magnitude of change that is of interest. In comparisons of different services, whether within the Metro Transit system or external comparisons with other operators, it is necessary to take trip length into account. Consider two routes, one express and one local, each having 40 seats filled continuously, and each traveling for an equal length of time or distance. Because the local bus serves shorter passenger trips, it would have more boardings and thus appear to be more productive on a boardings per hour basis. Since both buses have the same seat utilization, however, they are both equally productive.

EFFICIENCY

Efficiency refers to the relationship between cost and output. The performance measures we considered were operating cost per revenue hour, operating cost per revenue mile, revenue hours per work hour (i.e., total hours worked by all operating employees), and cost per work hour.

Metro Transit is a fairly efficient operation, with unit costs ranking in the lower half of the peer group. Cost per revenue mile is 15% below the peer average; cost per revenue hour is 4% below the peer average. The difference in these two results is affected by Metro Transit's operating speed, which is 8% higher than the peer group average.

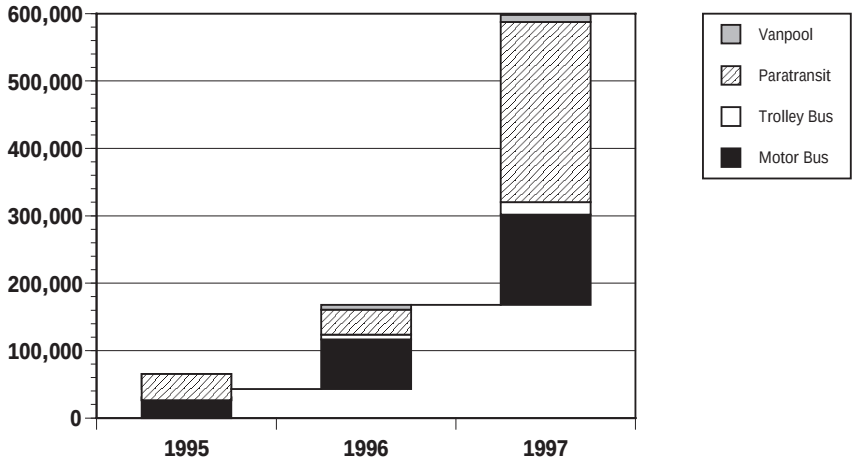
One factor contributing to this result is Metro Transit's labor productivity. This was measured as the ratio of revenue hours to hours worked by all operating employees (i.e., work hours). Metro's performance ranked in the upper half of the peer group. This is attributed in part to its comparatively high scheduling productivity for bus services, which is described in the section below on motor bus operations.

COST EFFECTIVENESS

Cost effectiveness refers to the relationship between cost and consumption of services. Typically, consumption is measured by boardings, but may be measured on a per capita basis as well.

Metro Transit ranks in the top quarter of the peer group in operating cost per capita and capital cost per capita, where it placed first and third, respectively. The operating cost per capita is consistent with the scale of service per capita noted above. The capital cost per capita is higher than any of the bus-only systems, and was exceeded only by Portland (light rail construction) and San Francisco (rail and bus rehabilitation). Capital expenditures are subject to significant variation year-to-year, however, and these rankings may not be indicative of longer-term trends. In

Exhibit 2.9:
Platform hours of Service Added Since 1994



Source: National Transit Database reports, 1994–1997

1997, for example, Metro Transit's capital expenditures were $106 million, which was the high for the 1993–1997 period.

Operating cost per boarding and per passenger mile follow the same pattern as noted in the service effectiveness section — Metro Transit's cost per boarding is among the highest for the peer group, while its operating cost per passenger mile is the lowest. These extreme values indicate that, all things considered, Metro Transit's cost effectiveness is reasonable in relation to the peer group.

INTERNAL TRENDS AFFECTING THE SYSTEM-WIDE RESULTS

The trends in system-wide performance reflect the characteristics of service added in the past several years.

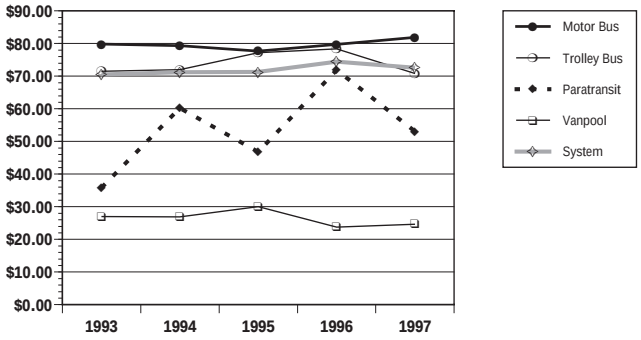
Exhibit 2.9 (above) summarizes the platform hours added annually since 1994. These total almost 600,000 hours. Paratransit service accounted for 65% of the new hours, and motor bus accounted for 43%.

The extent of new service invested in paratransit tends to lower system-wide unit costs, since paratransit has a lower cost per hour than motor bus or trolley bus services. Paratransit also carries far fewer boardings per hour, so its expansion also tends to reduce system-wide cost effectiveness.

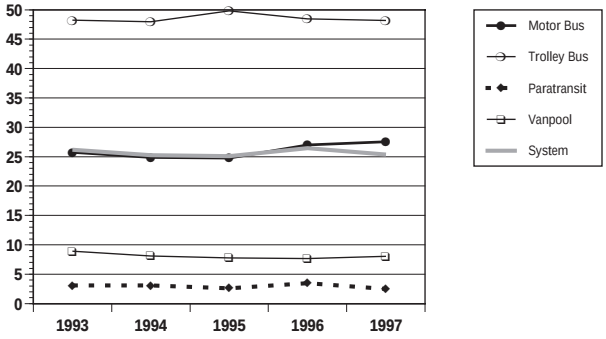
Metro Transit trends in cost per platform hour, boardings per revenue hour, and cost per boarding by mode are shown in Exhibit 2.10 (page 2-18).

Exhibit 2.10
Trends in Key Indicators by Mode

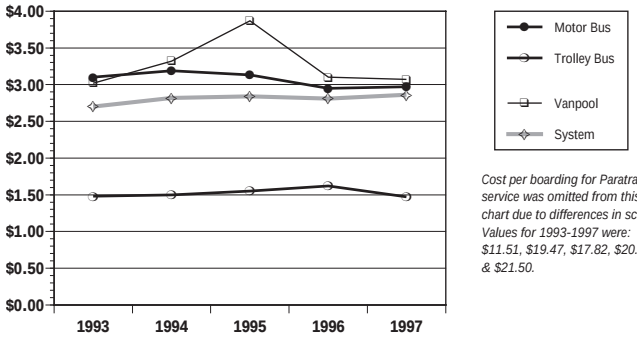
Trends in Cost per Platform Hour, 1993–1997



Trends in Boardings per Platform Hour, 1993–1997



Trends in Cost per Boarding



Cost per boarding for Paratransit service was omitted from this chart due to differences in scale. Values for 1993-1997 were: $11.51, $19.47, $17.82, $20.67, & $21.50.

Trends in cost per hour have been fairly flat for all modes except paratransit, which has been highly variable. As a rule, these unit costs are highest for motor bus and trolley bus, followed by paratransit and vanpool. Paratransit costs are lower in part because these services are contracted out, and partly because the vehicles are simpler and subject to less wear-and-tear than motor buses and trolleys. Vanpool costs per hour are very low, since this service relies on volunteer drivers and uses fairly efficient vehicles.

Trends in boardings per platform hour are also fairly flat among the modes, but differ markedly one to another. Trolley bus service, which operates in the most dense part of the service area, has the highest boardings per platform hour. It is about 80% higher than for motor bus. The system average tends to follow that for motor bus, since that mode accounts for most of the services provided by Metro (about 66% of total platform hours). Boardings per hour for vanpool and paratransit are fairly low, due to the use of small vehicles that serve custom trip patterns.

The system-wide cost per boarding has been trending slightly upward, due primarily to the expansion of paratransit service. Paratransit's cost per passenger is about seven times the system-wide average. It has been increasing, but its rate of increase has slowed and is expected to slow further. The cost per boarding for motor bus service was lower in 1997 than in 1993, a remarkable achievement considering the extent and location of new service. Cost per boarding for trolley bus service has changed little since 1993.

Motor bus and trolley bus service is further analyzed below, in the context of their peer systems.

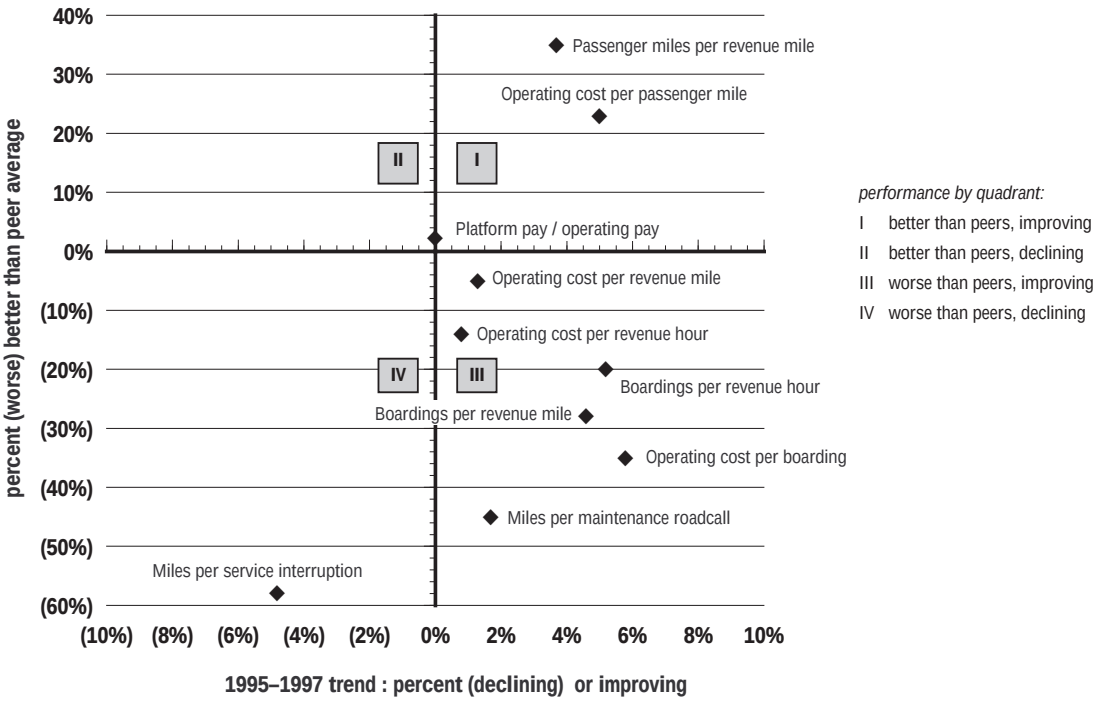
MOTOR BUS PERFORMANCE

We performed a peer comparison and trend analysis of motor bus operations to determine where it varies from the performance of the system as a whole. This analysis used the same peer group as in the system-wide peer group comparison, and the trends were measured for the period 1995–1997.

A summary of the results is presented in Exhibit 2.11 (page 2-20). Metro Transit motor bus operations tend to register better results than in the system-wide analysis for service effectiveness (e.g., boardings per revenue hour) and cost effectiveness, and worse results in unit costs. These differences occur chiefly because the motor bus analysis excludes effects of paratransit operations, which produce low boardings per hour, high cost per passenger, and low cost per hour.

The performance of Metro Transit's bus operations tends to rank below the peer group average, but almost without exception its performance is improving. A summary of Metro Transit's comparative performance with respect to measures of effectiveness, efficiency, and cost effectiveness is presented below. Detailed peer group results are presented in Exhibit 2.12 (page 2-21).

Exhibit 2.11:
Summary of Motor Bus Performance



source: National Transit Database reports, 1997 (peers), 1995–1997 (trend)

EFFECTIVENESS

The comparative service effectiveness of Metro Transit's bus operations is similar to the results presented earlier for the system as a whole, but its trends are more strongly positive. Metro Transit ranks 9th in boardings per revenue mile and 11th in boardings per revenue hour. Both measures have been improving at an annual rate of about 5%. When service effectiveness is adjusted for the rather long trips served by Metro Transit, however, it ranks second in the peer group — its passenger miles per revenue mile is second only to San Francisco.

Two other measures of effectiveness were examined, both of which address service reliability. Metro Transit ranks fairly low in miles between total service interruptions (5th lowest, 42% of peer average); this measure worsened between 1995 and 1997. It includes accidents, transportation-related service interruptions, and maintenance-related service interruptions (also known as roadcalls). The worsening in performance is attributed to accidents and transportation-related interruptions — miles per maintenance roadcall improved slightly over the period, but is still considerably less than the system average.

Exhibit 2.12
Metro Transit Peer Group
Motor Bus Comparison, 1997

	EFFECTIVENESS					EFFICIENCY						COST EFFECTIVENESS	
System	Boardings per rev mile	Boardings per rev hr	Pass Miles per rev mile	Miles per service interruption	Miles per Maint Roadcall	Op Cost per rev mi	Op Cost per rev hr	Platform Pay / Op Pay	Operator pay per rev hr	Maintenance Cost per VM	Maintenance Materials Cost per VM	Op Cost per boarding	Op Cost per pass mi
King County Metro	2.2	31.1	14.5	2,068	3,974	6.64	92.45	89%	24.44	1.23	0.60	2.97	0.46
Baltimore	4.0	45.7	13.8	1,571	2,647	7.21	83.46	84%	22.06	1.36	0.36	1.83	0.52
Cleveland	2.5	31.2	9.2	6,672	10,558	6.54	82.26	83%	21.67	1.07	0.28	2.63	0.71
Dallas	1.9	26.7	8.9	3,795	9,139	6.16	86.93	92%	14.80	1.06	0.39	3.25	0.69
Denver	2.1	36.5	9.6	2,937	17,025	4.87	83.84	88%	17.59	0.91	0.25	2.29	0.51
Houston	2.2	32.4	11.3	2,604	5,381	5.27	76.96	83%	19.40	1.38	0.41	2.38	0.47
Milwaukee	3.9	47.5	10.2	1,505	4,312	5.28	63.89	88%	20.74	0.88	0.16	1.34	0.52
Minneapolis	2.7	37.4	11.6	10,943	13,588	5.84	80.78	90%	25.84	0.84	0.16	2.16	0.50
Oakland	3.3	38.9	9.7	1,765	3,602	7.38	88.50	83%	24.27	1.41	0.32	2.27	0.76
Pittsburgh	2.6	35.1	10.0	1,659	3,478	6.40	85.48	88%	26.47	1.21	0.30	2.43	0.64
Portland	2.8	36.2	10.8	4,514	6,716	5.58	71.18	91%	20.86	0.90	0.26	1.97	0.52
San Francisco	7.4	67.7	15.6	1,946	2,776	10.08	91.99	81%	26.95	1.95	0.33	1.36	0.65
St. Louis	2.0	31.0	8.0	5,305	7,076	5.14	78.20	90%	22.34	0.84	0.27	2.52	0.65
Group Average	3.1	38.9	10.7	4,908	7,192	6.31	81.12	87%	21.92	1.15	0.29	2.20	0.59
Metro/Average	72%	80%	135%	42%	55%	105%	114%	102%	112%	107%	207%	135%	77%
Metro Rank of 13	9th highest	11th highest	2nd highest	5th lowest	9th highest	4th highest	Highest	5th highest	4th highest	5th highest	Highest	2nd highest	Lowest

source: National Transit Database, 1997

abbreviations:

Rev Miles	revenue miles
Rev hr	revenue hours
Pass Miles	passenger miles
Work hr	work hours (I.e., hours worked by all employees)
VM	vehicle miles
Op Cost	operating cost
Op Pay	operating pay (i.e., all pay time for operators excluding paid absences or leave)

EFFICIENCY

The comparative efficiency of Metro Transit's bus operations is slightly worse than for the system as a whole, but trends are uniformly positive.

Metro Transit's unit costs are either at the top of the peer group (cost per revenue hour) or near the top (cost per revenue mile). These are 14% and 5% higher than the peer group average, which is surrounded by a fairly tight distribution. Both are improving (i.e., declining) at an average annual rate of about 2%.

We also considered the efficiency of the two largest service-related costs: operator wages, and vehicle maintenance costs. Together, these account for 40% of motor bus operating cost.

Operator cost per revenue hour is fairly high, ranking 4th highest in the peer group. This indicator changed little over the three-year period. This result is a combination of comparatively high wage cost (Metro Transit has the third-highest top operator wage in the peer group) and efficient scheduling and dispatching. The latter is measured by the ratio of platform pay (i.e., pay for driving time) to total operating pay (i.e., excluding paid leave), which was 5th best (highest) in the peer group.

Maintenance cost is likewise comparatively high, ranking in the top half of the peer group (see maintenance cost per vehicle mile). This result is influenced considerably by Metro Transit's very high cost per vehicle mile for maintenance materials. On this indicator, Metro Transit is more than twice as costly as the peer average, and is more than 50% higher than the next closest system. If its materials costs were near the peer average, its overall maintenance cost per vehicle mile would be among the lowest in the peer group. Metro Transit's high materials cost is attributable in large measure to the Breda fleet.

COST EFFECTIVENESS

Metro Transit's bus operations are fairly cost effective, and performance is improving steadily. Cost per boarding is well below the peer average, but is improving (i.e., declining) at about 5% annually. This reflects the efficiency with which the six-year plan has been implemented, and the market's response to the plan. When adjusted for trip length, Metro Transit's cost effectiveness is the best in the peer group — cost per passenger mile was 23% better than the peer average.

TROLLEY BUS PERFORMANCE

Metro Transit's trolley bus performance was generally consistent with the peer systems' average. It is more difficult to draw definitive conclusions about trolley bus performance, as opposed to motor bus, due to the much smaller size of the peer group. Accordingly, internal performance trends are probably more instructive than comparisons to the peer average.

Metro Transit operates one of only five trolley bus systems in the United States. The other trolley bus systems are located in San Francisco, Boston, Dayton, and Philadelphia. As is the case with Metro Transit, the trolley buses represent a relatively small percentage of the overall bus operations for these four transit systems. The operating and financial statistics for this peer group were described earlier in this chapter (see Exhibit 2.2)

A summary of the peer and trends comparison is presented in Exhibit 2.13. A table with system-specific information is presented in Exhibit 2.14. Both exhibits are on page 2-24.

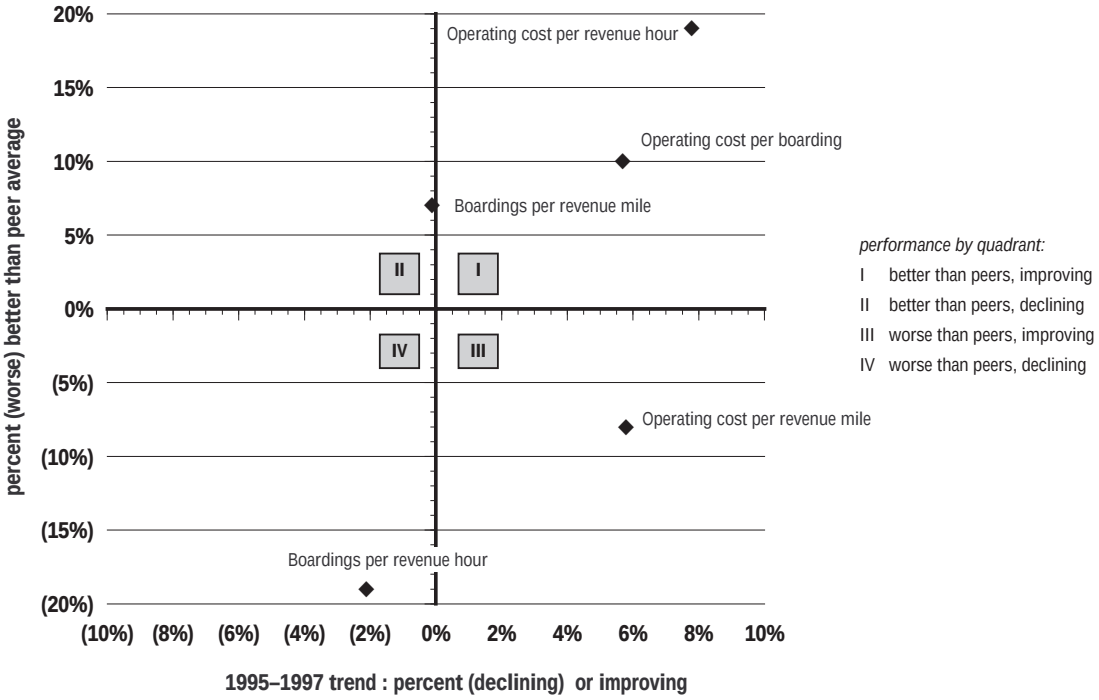
Metro Transit's trolley bus operations tend to perform better than the peer group average, and its performance has improved over the last three years. The peer results are influenced by the areas of heavy demand served by this system, and the low speeds that are typically of a highly urbanized service area.

The trolley system's comparative service effectiveness is influenced by its low speed. Although Metro Transit ranked third in both boardings per revenue mile and boardings per revenue hour, it scored above the average in the former and below average in the latter. This is because its average speed (6.9 miles per hour) was lowest in the peer group, ranking even behind San Francisco. Also, Metro Transit's trolley bus speed is declining. Consequently, its boardings per revenue mile are improving, but its boardings per revenue hour are worsening (i.e., declining).

The efficiency of the Metro Transit's trolley system is close to the peer average, and its unit costs are improving (i.e., declining). It ranks third in cost per revenue mile, and fourth in cost per revenue hour. These measures improved at rates of 6% and 8% respectively between 1995 and 1997.

The cost effectiveness of the Metro Transit trolley system is better than the peer average, and is improving (i.e., declining). Metro Transit ranked third in cost per boarding. This unit cost improved by 6% annually between 1995 and 1997.

Exhibit 2.13:
Summary of Trolley Bus Performance



source: National Transit Database reports, 1997 (peers), 1995–1997 (trend)

Exhibit 2.14
Metro Transit Peer Group
Trolley Bus Comparison, 1997

	EFFECTIVENESS		EFFICIENCY		COST EFFECTIVENESS
System	Boardings per rev mile	Boardings per rev hr	Op Cost per rev mi	Op Cost per rev hr	Op Cost per boarding
King County Metro	7.3	50.5	10.12	74.23	1.47
Boston	4.8	45.4	10.66	102.75	2.26
Philadelphia	7.9	87.3	9.80	114.55	1.31
Dayton	3.3	35.5	6.40	69.75	1.96
San Francisco	11.4	80.2	10.56	77.57	0.97
Group Average	6.8	62.1	9.35	91.16	1.63
Metro/Average	107%	81%	108%	81%	90%
Metro Rank of 13	3rd highest	3rd highest	3rd highest	4th highest	3rd highest

source: National Transit Database, 1997
abbreviations: Rev Miles revenue miles
Rev hr revenue hours
Op Cost operating cost

CONCLUSIONS

- The performance measures used in this assessment provide an effective overview of the performance of the system as a whole, as well as some insights into the performance of specific elements of the transit organization.
- Performance has improved since the merger. Cost per platform hour increased slightly (0.7% annually) since 1993, but fell by 2.5% annually in real terms (i.e., net of inflation), as did the cost per passenger boarding. Passenger boardings per platform hour increased by 0.3% annually. These results are remarkable given the large increase in service that occurred in this period — 19% more hours of service were operated in 1997 than in 1993, and passenger boardings are 15% higher. It is rare for a large urban transit system to achieve these results while expanding service so dramatically.
- Metro Transit is a more efficient operation than its peers, and its efficiency is improving. Operating cost per revenue hour is 4% better (i.e., lower) than the peer average, and has improved (i.e., declined) at an average annual rate of 3% since 1995. Operating cost per revenue mile is 15% better than the peer average, and has improved at an annual rate of about 4% since 1995. The difference in these two comparisons reflects Metro Transit's comparatively higher operating speed.
- Metro Transit's performance with respect to effectiveness and cost effectiveness depends on how one measures the consumption of service. It ranked near the bottom of the peer group for boardings per revenue hour, boardings per revenue mile, and operating cost per boarding. Metro Transit serves much longer trips than its peers, however. If these same statistics are viewed on the basis of passenger miles rather than boardings, Metro Transit's performance is much better than the peer average, and near the top of the peer group. In either case, cost effectiveness is improving.
- The trends in system-wide performance reflect the characteristics of service added in the past three years. Paratransit service accounted for 65% of the new hours. This service has a lower cost per hour than motor bus or trolley bus services, and carries far fewer boardings per hour. These factors tend to improve system-wide unit costs, but mask the improvement in effectiveness and cost effectiveness for motor bus services.

- Some underlying trends in performance are unfavorable. Bus maintenance cost is higher, and reliability lower, than for the peer systems. This is undoubtedly influenced by the performance of the dual-mode bus fleet, but other factors may contribute to this result as well.

RECOMMENDATIONS

2.1 *Metro Transit should establish a process for annually reviewing its performance against a peer group, using a set of performance measures similar to those used in this report.* The peer comparison should continue to use the four-part structure presented in this report — better than peers and improving, better than peers but declining, worse than peers but improving, and worse than peers and declining. Performance targets should be established that tie to the Division's annual objectives.

This annual review should assist Metro Transit in targeting management efforts on areas of deteriorating performance, or areas in which performance is apparently well below the peer average. For example, the peer review revealed that Metro Transit's maintenance materials costs are higher than any of its peers, and are about twice the peer average. Most of the causes of this result are known to Metro Transit management, and a remedial plan is being implemented. New targets for the values of this measure should be established that reflect the expected results of the remedial plan.

Paratransit Operations

This part of the management audit addressed the efficiency and quality of call taking, trip scheduling, and dispatching services of the County's paratransit program. This program is directed by the Accessible Services unit of the Paratransit/ Rideshare Operations section, within the Transit Division. That unit manages several contractors that arrange scheduling and operate the services.

Paratransit operations are unique in that each passenger trip is individually scheduled, and must be scheduled at least a day (and up to seven days) in advance. Thus, there is a high volume of transactions each day, and the scheduler must be skilled in addressing a customer's unique travel requirements, and integrating his or her trip with others in an efficient manner.

We found the performance of the call taking, trip scheduling, and dispatching services to be positive. Further, it is evident that the Transit Division is dedicated to the continuous improvement of the quality and efficiency of paratransit services. Interviews with users of the system reflect a high level of appreciation for the services provided, but some frustration with operations practices, such as the five minute window within which users must be on board the vehicle after the it arrives at the pickup point. We found that the staff has established a good working relationship with the contractors that operate the service, and have achieved significant improvements in teamwork over the past several months. The staff is actively addressing policy-maker concerns about the costs of paratransit services, and has taken actions to reduce the County's exposure to additional service requirements (by limiting eligibility) and to improve schedule productivity (by pursuing the implementation of new scheduling software).

The remainder of this chapter provides some background information on the organization of paratransit services, presents an evaluation of call taking, scheduling, and dispatch functions, and lists our conclusions and recommendations.

BACKGROUND

The paratransit program consists of two types of services — the ACCESS program and the Transit Options program. The ACCESS program is operated by contractors under the direction of the Accessible Services unit. The sections which follow provide: (i) an overview of the organization of Accessible Services unit and its relationship to the contractors; (ii) a description of the ACCESS program; and (iii) a description of the Transit Options program.

ACCESSIBLE SERVICES UNIT & GENERAL PARATRANSIT SERVICES ORGANIZATION

The paratransit program is under the direction of the staff of the Accessible Services unit of the Paratransit and Rideshare Operations section of the Transit Division. The staff is headed by the Supervisor of Accessible Services, who reports to the Manager of Paratransit/Rideshare Operations. There is a staff of nineteen full time and part time people, with the equivalent of 17.67 full time staff members.

Accessible Services is divided into three functional areas, each of which is headed by a senior planner:

- Policy, Contract Development, Budget and Reporting
- Contract Management
- Registration, Outreach, Travel Training and Taxi Scrip.

The Accessible Services unit is charged with the oversight of two King County Metro Transit programs: the ACCESS Transportation Services and the Transit Options Program.

- ACCESS Transportation provides paratransit services to individuals who meet the criteria for Americans with Disability Act (ADA). This paratransit service is operated as a complementary system to the fixed route bus operation.
- The Transit Options Program serves individuals who are senior or disabled and low income by providing two service options: van service and a discount rate for taxi service.

King County Transit owns the assets for delivering service, including vehicles, communication equipment, and the computer hardware and software. Accessible Services contracts for the delivery of service. The contracted functions include vehicle operation and maintenance, call taking, trip scheduling, and dispatching. Portions of the eligibility determination process are contracted as well.

Metro retains the responsibility for planning, budgeting, eligibility program management, customer service, oversight of contractor activities, and distribution of taxi scrip.

Legislative changes recently approved by the King County Council will separate the ADA-required program from the Transit Options program (in the future to be called the Community Transportation Program). The proposed changes are designed to provide cost savings for both programs, and to control future growth in ridership on the more expensive ADA service.

A related action that is being considered by the King County Council is a change to the fare structure of both programs that would increase the fare gradually until it equalled the regular fixed route bus fare.

The staff estimates that the impact of implementing the proposed changes will reduce the projected growth in operating costs by $3.5 million and capital cost by $1.5 million in fiscal year 2001.

Other Accessible Service activities which are underway to control costs include a review of the ADA eligibility requirements with the purpose of implementing the conditional eligibility provisions of the ADA law. This would permit ACCESS to deny service for some trips to persons who are eligible for ADA service only when certain conditions are present that prevent their use of a fixed route bus. ACCESS has also begun to enforce no-show and cancellation policies as another strategy to control the number of trips.

ACCESS PARATRANSIT SERVICES

The provision of ACCESS services is governed by the Americans with Disabilities Act (ADA) of 1990. The section which follows: (i) summarizes the key features of ADA that affect the County's provision of service; (ii) describes trends in ACCESS services and costs since 1993; and (iii) describes the organization of contracted services.

KEY FEATURES OF ADA

The ADA mandated that fixed-route transit systems provide complementary paratransit service to riders who are functionally unable to use regular bus or other public transportation modes, some or all of the time.

ADA also required that service criteria be maintained to assure that paratransit service is comparable to fixed route service. The criteria include:

- offering service within a service area which is 3/4 of a mile on either side of a fixed route
- operating the same days and hours of service
- charging fares no more than double the adult fixed route fare (Washington State law limits the maximum fare for ADA services to the regular bus fare.)
- placing no restrictions on trip purpose or response time.

The intended effect of this provision is to create a paratransit system that provides ADA paratransit-eligible persons the same level of reliability as fixed route service.

The ADA is specific about eligibility, and requires transit operators to establish a screening process to certify eligible individuals. Once someone is determined to be eligible, service cannot be denied — all eligible trip requests must be honored. Transit providers can, however, negotiate the requested pickup time to within one hour of the time requested by the customer.

The ADA states that "The entity shall not limit the availability of complementary paratransit service to ADA eligible individuals by any of the following:

- restrictions on the number of trips an individual will be provided
- waiting lists for access to the service
- availability of service to ADA paratransit eligible persons. Such patterns or practices include, but are not limited to, the following:
  - substantial numbers of significantly untimely pickups for initial or return trips;
  - substantial numbers of trip denials or missed trips;
  - substantial numbers of trips with excessive trip lengths."

The law does not specify an acceptable denial rate. The Federal Transit Administration has not provided specific guidance on this matter except to indicate that any pattern or practice of denial is considered a discriminatory act. The provisions of the ADA have a significant impact upon service delivery and in particular how service is reserved, scheduled, and dispatched.

The County provides ACCESS Transportation Service in compliance with the provisions of the ADA. Service is operated 24 hours a day, seven days a week in those parts of the Metro Transit service area having 24-hour fixed route service. Less extensive service is operated in other areas, consistent with that of fixed route services.

ACCESS TRENDS

Trends in ACCESS transportation services, ridership, and costs are presented in Exhibit 3.1 (page 3-5), for the period 1993 to 1997. The average annual rates of growth are displayed for this entire period, and for the 1995–1997 period when the services were fully under County control.

Overall, the trends for this period reflect the rapid expansion necessary to meet the ADA mandates, and to some extent the expanded definition of eligibility employed by the County. Miles of service have increased fourfold to 8.9 million in 1997. By way of comparison, this is about 26% of the revenue mileage of the County's motor bus and trolley bus systems, combined. Revenue hours and passenger trips have grown substantially, but at a slightly lower rate than revenue miles. Operating costs, however, have grown faster than revenue miles, increasing by a factor of five since 1993.

Exhibit 3.1
Trends in ACCESS Services, Riders, and Costs

						average annual growth		
Measure	**1993**	**1994**	**1995**	**1996**	**1997**	**1993-1994**	**1995-1997**	**1993-1997**
Revenue Miles	2,058,392	2,602,477	3,636,554	5,300,660	8,889,236	26.43%	50.60%	44.16%
Revenue Hours	154,358	195,636	235,404	271,635	538,486	26.74%	40.14%	36.67%
Passenger Trips	480,779	608,843	619,075	950,397	1,335,958	26.64%	29.95%	29.11%
Passenger Miles	3,625,095	4,655,012	4,694,692	6,801,385	9,745,442	28.41%	27.93%	28.05%
Operating Costs($)	$ 5,531,613	$ 11,854,660	$ 11,033,321	$ 19,647,893	$ 28,721,065	114.31%	34.31%	50.95%
Cost per mile	$ 2.69	$ 4.53	$ 3.03	$ 3.68	$ 3.21	68.40%	-10.85%	4.52%
Cost per hour	$ 35.84	$ 60.21	$ 46.76	$ 71.91	$ 53.12	68.00%	-4.09%	10.34%
Speed	13.34	13.30	15.45	19.51	16.51	-0.30%	7.47%	5.47%
Cost/passenger	$ 11.51	$ 19.47	$ 17.82	$ 20.67	$ 21.50	69.16%	3.36%	16.91%
Passenger/Hour	1.00	0.99	1.00	0.99	1.00	-1.00%	0.34%	0.00%
Passenger/Mile	0.23	0.23	0.17	0.18	0.15	0.00%	-13.28%	-10.13%
Trip Length	7.54	7.65	7.58	7.16	7.29	1.46%	-1.59%	-0.84%

A selection of performance measures that can be derived from these data are summarized in the lower part of the exhibit.

Generally, ACCESS performance trends are more favorable for the past three years than for the first two. Cost per mile, for example, was $4.53 in 1994, but fell to $3.21 in 1997. Similarly, cost per hour fell to $53.12 in 1997 from $60.21 in 1994. Speed has also improved. Service productivity, measured by riders per revenue hour, has remained fairly constant. Cost per passenger increased slightly between 1994 and 1997, growing at a rate of 3.4% per year. In all, the performance trends are reasonable given the rapid expansion of service.

ORGANIZATION OF CONTRACTED SERVICES

The organization of contracted services is best explained by relating it to the process for making a trip. This consists of three steps:

- call taking, in which the rider calls in to a call center contracted for by Metro and makes a reservation for a specific trip or set of trips that need to be taken;
- scheduling, in which the call-taker assigns the trip to one of the contract carriers; and
- dispatching, in which the contract carrier reviews the schedule for accuracy and controls the operation of the vehicle in service on the day of service.

All these functions, as well as the actual operation of service, are provided by private contractors. Metro Transit has arranged for call center management and scheduling of the ADA and the Transit Options programs with two separate contractors that cover separate areas — the east service area and the west service area. The east service area is the larger of the two.

The call center for the west side service area is managed by Laidlaw, which handles reservations and assigns work to its own vehicles as well as to another Metro contractor operating in the same service area.

The east side service area call center contractor is responsible for call taking and scheduling for trips within the east area, and for trips that operate between the east side and west side. The east side call center is managed by Multi-Service Center (MSC). Dispatching responsibilities are handled by the three contractors in the east service area: Dave, ATC, and SPT.

The Accessible Services staff is revising the service delivery process. The changes are being implemented through work to be done under a pending Request for Proposals (RFP 99-001). This project is the result of an agreement with the Washington State Department of Social and Health Services Medical Assistance Administration (DSHS-MAA) to coordinate Medicaid and paratransit transportation in King County.

The new service requires a contractor to provide a paratransit call center for both ACCESS and the Medical Access Program of DSHS-MAA. This contract will change the way the east side call center operates. Under this proposed contract arrangement, the responsibilities of the east side call center manager will be expanded to include contracting for overflow service and coordination of transportation service between King County and DSHS-MAA. The contract award does not allow the Call Center to provide direct transportation service.

The Accessible Services staff also intend to update the paratransit scheduling software used by the call center contractors. The contractors now use a computer application known as PASS (DOS version) to reserve, schedule and dispatch trips. Atlanta, New York and Las Vegas are converting to a Windows version of the software. Both applications are reliable and have few problems. Accessible Services staff plans to being upgrading the reservations, scheduling and dispatch software in 1999.

THE TRANSIT OPTIONS PROGRAM

Prior to the ADA, Section 504 of the Rehabilitation Act of 1973 required that transit systems make special efforts to provide service for elderly and disabled individuals. Unlike the ADA, it provided latitude in what services could be provided to comply with the Act. Metro chose two strategies to comply with this earlier requirement:

- to put wheelchair lifts on fixed route buses.
- to continue two established programs for low income disabled and senior citizens
  - door-to-door service (Reserve-a-Ride)
  - a subsidized taxi scrip program.

Reserve-a-Ride is the predecessor to the current Transit Options program. To qualify for what is now the Transit Options program, applicants must be a low-income resident of King County and have a Regional Reduced Fare Permit (RRFP). Persons who are over 18 years of age and have a disability which does not qualify them for ADA service, and all persons over 65 years of age, are eligible for this permit. As of December 1998, there were 18,273 persons registered for the Transit Options program. This represents a 5% increase over the previous year.

The Transit Options Program operates between 5:00 AM and 10:00 PM, Monday through Friday and is limited geographically.

The Taxi Scrip Program provided 70,885 subsidized rides at a cost to the County of $5.90 per trip in 1998. The cost for this program was $418,126 in 1998.

CALL TAKING, SCHEDULING AND DISPATCH

The efficiency and quality of call taking, scheduling, and dispatch was the focus of the audit of paratransit operations.

A unique aspect of paratransit operations is that each trip must be individually scheduled. Paratransit customers must make a reservation for each trip, unless they are eligible for a standing or subscription trip whereby they may schedule a series of trips with one call. Reservations must be made at least one day, and no more than seven days, in advance of a trip. This provision is necessary in order to complete the rather complicated process of developing a unique schedule for each day of operations.

Our review of each of these steps is provided below.

CALL TAKING

The reservationist – or call taker – is the first point of contact with a rider seeking to schedule service. The call taker's primary responsibility is to record customer service requests accurately, and assure that trip requests are scheduled most efficiently.

We found that the preponderance of calls are answered within Metro Transit's standard (three minutes). Customer complaints about long times on hold are minimal. Call takers also monitor trip denials or trips not provided within the time scheduled, and will give these customers priority on future trips.

Additional information on the call taking process is provided below.

In 1998, the call centers responded to 478,926 telephone calls, which was an increase of 27% over 1997. The goal for call taker response time is to have a reservationist answer within 3 minutes of when the call enters the system. In 1998, 93% or 445,401 of all calls were answered within the 3-minute standard.

A review of complaints received by Metro Transit revealed that only seven of 2,671 complaints cited problems with the amount of time on hold. Anecdotal reports of lengthy call wait times, experienced by some customers cannot be verified and are not supported by the performance reports. This is not to dismiss that some customers may experience long wait times during peak call times. Customers who make infrequent reservations may view the wait time differently than regular service users. Customer education about what to expect when making a reservation and the best times to call for a better service may help alleviate the problem.

The ADA prohibits trip denials but permits reservationists to negotiate with the customer for a trip one hour plus or minus the customer's requested pickup time. This is important to Metro since a pattern of denials could result in an ADA complaint at best and at worst a lawsuit. On-site observations of the call takers for both contractors found that reservationists were negotiating trip times and appeared conversant with the service area.

The call centers staff are responsible for monitoring denials of services that are not provided within the prescribed times as defined by the ADA. The Accessible Services staff, working with the call centers managers, has developed a method of tracking denials and correcting patterns that may develop over time. Service denials are monitored for each carrier, by day of the month, time of day, and individual customer.

The staff using this tracking method recently noted a trend in trip denials for cross-county service requests. The tracking system identified those customers who experienced a 6% or greater denial rate during a 30-day period. The reservations for these customers were given priority scheduling until the pattern of denials were eliminated. The Accessible Services staff monitors the monthly summary reports and may add service hours if necessary to correct problems during days of the week and times of the day when demand exceeds capacity.

The call center contracts contain two service quality standards: (i) delivered service must be on-time 95% of the time; and (ii) phone lines must not be busy more than a total of one hour per month. No standards for productivity are included in the contract standards, however.

SCHEDULING

The efficiency of the scheduling process is critical to the service effectiveness and the cost effectiveness of paratransit services, given that trip patterns are created anew each day.

One measure of scheduling efficiency is the average weekday passenger per vehicle service hour. The average rides per vehicle service hour productivity for 1998 was 1.68. This is compared to 1.66 rides per vehicle service hour for 1997 or a 1.1% productivity improvement.

The staff of the scheduling function is responsible for producing the daily driver manifests that specify the names of the riders, the location of the pickups, the route to be operated, and the time and location of the pickups and drop-offs to be made. The reservationist handles scheduling at the time a call is taken. This is known as real time scheduling. Scheduling is handled in a similar manner in each of the call centers.

The schedulers are responsible for improving on the productivity of the work done in reservations by periodically running the existing rides through a batch scheduling process. Batch scheduling runs the existing reservations through a program that optimizes service hour utilization with the objective of improving vehicle utilization and passenger per service hour productivity.

Trips may be rescheduled on different vehicles and at different times. This process may require that passengers be called back to alert them to pickup time changes. Calls to customers can be a time consuming exercise. ACCESS makes 7,000 and 8,000 calls per month to reschedule trips and improve productivity.

Setting a target number each year for both on-time operation and riders per vehicle service hour is critical for continual service quality improvements. The target numbers should be realistic for Accessible Service operating conditions and be an improvement over the previous year. This process is more useful than pegging productivity to a national standard. Many large and small systems establish a goal of two passengers per hour. The achieved standards vary widely, depending upon several factors including the size of the service area, the number of group trips scheduled, and whether service is operated directly or by contract.

Contracted operations such as King County's which do not vary operating hours on a daily, weekly, or even monthly basis must set a target for productivity, but must also allow the on-time standards to vary. Paratransit operations that cannot adjust the level of response (service on the street) in reaction to changes in the amount of demand on any given day will not increase productivity unless on-time standards are allowed to vary within a target range.

Most paratransit operations set a range of anticipated on time operation based upon fixed route targets. For example, on time operation between 90 and 95 percent of all trips permits service operators to maintain passenger productivity at constant levels while varying on-time service delivery. If only one number is set then the contractor must sacrifice one target or the other or ask for additional resources.

Metro Accessible Services can compare productivity trends and on-time operation as one method of determining if the contractors need additional resources. At present past demand and trip denials are used as measures for allocating service hours among operators.

DISPATCHING

The purpose of the dispatch function is to assure that vehicles are dispatched in such a way that customers are picked up and dropped off within the acceptable standards for on-time performance and riders per hour or mile of service. Dispatchers assure that driver assignments are filled, monitor driver performance, and notify in-service drivers of trip cancellations and instruct drivers on handling situations that are out of the ordinary.

On-time performance is closely tied to productivity. In 1998, on-time performance was 93.8% compared to 92.8% in 1997. This represents a 1.1% increase over the previous year. This result was slightly below the objective of 95% on time, which is a consistent standard used widely in the industry.

From a passengers point of view, however, the fact that it is allowable to achieve a 5% late arrival performance means that as many as 50,000 pickups a year, or about 1,000 trips each week can be late, and the objectives of the system still be at target values. This is a formidable problem for both management and the passengers. The quality of service for a large number of people each day is less than desirable, and often results in hardship and inconvenience. The cost of the improvements necessary to increase the on-time performance, however, is formidable.

A SAMPLING OF USER ATTITUDES

A limited number of interviews with members of the advisory committee on paratransit services were conducted. The overall impression of the nature and extent of the services reflected in these interviews was very positive, but with some strongly held concerns about the five-minute boarding requirement (see below).

The interviewees, who included users, parents of users, and advocates for user groups, all expressed appreciation for the level of service provided, the positive and considerate attitudes of most drivers, and the fact that the services provided by the County are above the level of services required by ADA.

The major concern voiced by the interviewees is the requirement that users be on board within five minutes of a vehicle's arrival. They pointed out several practical problems which often make it difficult or impossible for a user to comply with this requirement, especially considering the fact that the user does not know when a vehicle might arrive within the 30 minute arrival window.

For example, a vehicle might arrive in front of a multistory high rise residence within the appointed 30 minute arrival window, or perhaps even a few minutes early. The user may live in a rear apartment that does not look out over the entry where the vehicle is parked, and not know the vehicle is there. The user has just five minutes to gather their belongings, leave the apartment, get an elevator to the ground floor, and make the driver aware of their presence. Alternately, the user must be ready to go at the outset of the 30 minute window, and wait for the 30 minutes near the pick up point.

CONCLUSIONS

- The performance of the call taking, scheduling, and dispatching functions is very close to standards — 93% of calls are answered within three minutes, service productivity is improving, and 94% of customers are picked up on time. These results are encouraging for a service that is experiencing customer growth of 30% annually.
- The Accessible Services unit is committed to the continuous improvement of the quality of service provided to paratransit customers. The staff is engaged in a broad range of activities designed to improve the performance of the system, including improvements in the call taking, scheduling, and dispatching activities of the contractor.
- Interviews with users of the system reflect a high level of appreciation for the services provided, and a frustration with the persistence of specific problems in the details of its operations.

- Some service quality issues persist, within the norms of such highly personalized services of this type. These include the application of the five minute window in which users must be ready to board the vehicle after the vehicle arrives at the pickup point.
- The staff has established a good working relationship with the contractors that operate the service, and has achieved significant improvement in teamwork over the past several years.
- The staff monitors and reports an extensive set of performance statistics, and works with the contractors to improve results that are below expectations.

RECOMMENDATIONS

3.1 *The Accessible Services staff should develop productivity performance measures and include these standards for both the operating contractors and the call center contractors.*

3.2 *The call center goal for passengers per service hour scheduled should be higher than the target number for passengers per vehicle service hour (trips actually delivered) since cancellations and no shows will reduce the former.*

3.3 *A simple formula should be used to determine the target for scheduled passengers per hour that will yield the desired passengers per vehicle service hour.* This number can be used in setting the PASS system parameters.

Assuming the national average of cancellations and no shows of 20 percent, the formula is as follows: (Passengers per Vehicle Hour) x (Cancel/No Show Factor + 1.0) = Scheduled Passengers per Hour. For example, if 1.5 is the desired passengers per vehicle hour then you would multiply 1.5 by 1.2 (cancel/no show factor) to get the scheduled passenger per hour target.

3.4 *The Accessible Service staff should work with the contractors and develop a solution to the conflicting impact of the 30 minute window for scheduled pickups and the five minute deadline for users to be on-board the vehicles.*

Demonstration Projects

This part of the management audit evaluated the policies and decision-making process for establishing "demonstration projects" for the King County Transit Division, including:

- the criteria or process for selecting special services or projects;
- the criteria for evaluating projects for conversion to regular or continued service; and
- the potential benefits of establishing a research and development fund in the budget to support innovative programs or special projects.

Each of these issues are addressed in order, following a background discussion that categorizes past demonstration projects, and offers a working definition of a demonstration project for the purposes of the audit. Detailed conclusions and recommendations are presented at the close of this chapter.

We found that demonstration projects have the potential to improve the services and operations of the Transit Division by testing new ideas that could increase ridership, expand service, and allow service to be offered in a more cost effective way. The current process for selecting and evaluating demonstration projects suffers from several weaknesses that nullify the potential benefits of a well-managed program. These weaknesses include an absence of selection and evaluation criteria, a selective evaluation process wherein only some projects are reviewed, and a lack of decision criteria for determining if a demonstration project should be made permanent. If the County is to achieve the potential benefits of a demonstration program, it needs to formalize a process for selecting, evaluating, and documenting demonstration projects.

BACKGROUND

The staff of the County and the Transit Division commonly uses the term "demonstration project," but there is little consensus as to what the term means for the management and evaluation of such projects.

Demonstration projects, in contrast to standing elements of the Transit Division's program, are funded on a one-time basis — resulting from either a management proposal or a Council initiative. In some cases, these projects are initiated to take advantage of a new federal funding initiative.

The County's transit demonstration projects fall into three broad categories of activities: service expansions, pricing innovations, and system enhancements.

- Service expansions involve the introduction of new transit routes and services as well as the expansion of service on existing routes. Recent examples of service expansions include the Elliott Bay Water Taxi, Route 600 serving Ballard, and the extension of the hours of service of the downtown bus tunnel. These types of projects are commonly recognized as "demonstration projects".

- Pricing innovations involve the introduction of new fare media or new pricing structures for existing media to encourage ridership or achieve other desirable results. Recent examples include Flexpass and a special 25-cent weekend and holiday fare. County and Transit Division managers have mixed views as to whether these projects are properly termed "demonstrations".

- System enhancements involve the introduction of new technologies or amenities into existing elements of the transit system. Recent examples include the experimental introduction of security cameras on buses and the installation of street-level lighting at certain bus stops. A good example from the early 1990s is an anti-vandalism project in which local high school students painted murals within Metro bus shelters. As with pricing innovations, there was less consensus for considering system enhancements of this type to be demonstration projects.

Although there was disagreement among County managers over exactly what types of activities are properly termed demonstration projects, there was agreement that the essential element of any demonstration project is its intent to inform future decisions as to the given activity's place as an ongoing element of Metro's program.

Accordingly, the working definition of demonstration projects used in this assessment is:

> *a service expansion, pricing innovation, or system enhancement that is funded on a temporary basis for the purposes of testing a new approach with the expectation that if successful it will be incorporated into the system on a permanent basis.*

CURRENT METHODS OF SELECTING DEMONSTRATION PROJECTS

Demonstration projects currently originate from two main sources: Transit Division and Council initiatives. Some Metro initiatives are developed to take advantage of external grant opportunities.

TRANSIT DIVISION INITIATIVES

Proposals for demonstration projects originate from individual Transit Division managers who have the authority to propose projects. Requirements for approval of these projects vary depending on the nature and cost of the proposal.

A low-cost and noncontroversial initiative that can be funded from current operating expense budget, such as the bus shelter mural program, can be approved by the manager of the section with responsibility for constructing and maintaining shelter structures.

A more costly initiative that cannot be funded from existing funds must be included in a budget decision package and reviewed and approved in the annual budget process.

These Division management initiatives come about as a result of such considerations as:

- the availability of special demonstration program funding from the Federal Transit Administration or other external sources;
- the ongoing planning process for new services and facilities;
- proposals from internal staff members or program managers;
- requests from user groups and community leaders; and
- the development of new and untried techniques.

Transit agencies often compete for grant funding that is targeted at the development and demonstration of new approaches to transit services, policies, or programs. Sources for such funding include the federal government, other jurisdictions, and foundations. One of the chief advantages of these external grants is that they allow Metro to test new approaches with funds from external sources that might not be available for other uses. Even these projects usually include some local matching funds that must be approved in the budget process.

The decision to pursue an external grant may originate at the staff level, but must be approved by a panel of senior managers. In early March, 1999 the members of this panel were developing criteria to guide their decisions as to which grants to pursue for 1999 project submittals.

COUNCIL INITIATIVES

Some demonstration projects carried out by Metro in the past five years were instituted at the direction of the Metropolitan King County Council. Such directives are usually relate to service expansion, including both new routes and the

expansion of existing routes. Recent examples of Council initiatives include the Elliott Bay Water Taxi and the extension of the hours of service in the downtown bus tunnel.

A Council directive can take the form of a budget proviso, in which the Council conditions its approval of the overall Metro budget on Metro's introduction or expansion of a particular service. Alternatively, the Council can enact an ordinance that directs Metro to carry out a demonstration project. Such Council initiatives often result from constituents' requests or suggestions.

Council proposals for demonstration projects are in addition and apart from Council policies relating to the expansion of services in general.

CURRENT COUNTY METHODS OF EVALUATING DEMONSTRATION PROJECTS

The Management Information and Transit Technology (MITT) section is responsible for evaluating ongoing transit programs and some demonstration projects. The MITT staff catalogues the demonstration project evaluations performed each year. Although the Transit Division does not maintain a list of all demonstration projects, most service-related demonstration projects are evaluated by MITT. Other kinds of demonstration projects are not usually referred to the Management Information Section for evaluation, and may not be evaluated at all.

The MITT staff sends copies of the evaluations it prepares to the managers of the sections who are responsible for implementing the project. Metro managers forward these reports to the Council on a voluntary basis, unless the County Council specifically requests a particular evaluation. If a certain demonstration project was funded from an external grant source, Metro typically furnishes a copy of the project evaluation to the grant agency as well.

Several considerations contribute to a decision whether to discontinue a service demonstration project or to convert it into a permanent element of the Metro Transit program. These considerations include evaluation results, anecdotal evidence, the reaction of neighboring jurisdictions, the reaction from the public at large, and the availability of funds to convert a demonstration project to permanent status.

Decisions regarding service demonstrations are particularly sensitive to public reaction, since any new service builds a constituency, and that constituency can become vocal if threatened with the loss of a service to which it has grown accustomed — no matter how "temporary" that service may have been viewed at its outset.

ADVISABILITY OF A SEPARATE RESEARCH AND DEVELOPMENT FUND

Funds for current demonstration projects are generally drawn from operating budgets. There is no dedicated or earmarked fund for use on these projects, although funding for specific projects may be included in a budget proviso.

The local share of externally funded demonstration projects is sometimes funded from the "fare stabilization and operating enhancement reserve", which is part of the operating sub-fund and is not carried separately in the financial statements.

The purposes — or at least some side effects — of creating a standing research and development fund would presumably include encouraging innovation, creating a stable and predictable funding source for demonstration projects, and building a rational process for selecting and evaluating demonstration projects.

These objectives can be achieved without establishing a separate fund, and it is possible that the fund's existence would produce some unintended adverse consequences that would outweigh its potential benefits.

One potential adverse result might be the application of the spend-down impulse to the fund. It is a natural law that such funds are likely to be oversubscribed to, whether the projects are appropriate or not.

We do not recommend the establishment of a special fund for research and development at this time. Establishing such a fund should be deferred at least until the fundamental management tools recommended for the program are in place (see "Recommendations," below). The decision whether to establish a demonstration fund should await a clearer assessment of how much money is currently being expended on such projects. If such a fund is established, care should be given to assuring that the fund does not become an entitlement that needs to be expended each year.

CONCLUSIONS

- Demonstration projects have the potential to improve the services and operations of the Transit Division by testing new ideas that expand service, increase ridership, and allow service to be offered in a more cost-effective way. Demonstration projects serve a legitimate research purpose when they are selected in a systematic way that is designed to select projects that may serve some strategic purpose. Any such selection process requires a set of selection criteria.

- The current process for selecting and evaluating demonstration projects suffers from several weaknesses that nullify the potential value of such a program. These weaknesses include:
  - There is no inventory of demonstration projects that have been undertaken to date. The MITT project list reflects only those projects that were referred to it for a complete evaluation.
  - The absence of generally-accepted criteria for project selection. Selection criteria are an important threshold for determining the validity of a proposed project at the outset, and the success of a project during its operational period.
  - The absence of standard evaluation criteria for determining the success or failure of projects. There is no formal basis for determining whether a demonstration project should be integrated with ongoing Metro Transit services.
  - Lack of documentation. There is no single place to find information on the status of all ongoing projects. There is no standard for what kinds of information are to be collected and reported, and there is no mechanism for converting individual staff member's memories and experiences with various demonstration projects into a single, documented form of institutional memory.
- There is no set requirement for establishing or managing Council-initiated demonstration projects, and no criteria for determining their suitability, appropriateness, or relevance to the overall transit program objectives.

RECOMMENDATIONS

4.1 *The County should organize its current and future "demonstration projects" under a set of policies and definitions that gives structure and purpose to the collection of activities as a whole, and to the role of individual projects within the overall program.*

Projects should continue to emanate from both the management staff and the Council. The process for project selection should continue to recognize the different roles of the Council and the staff – in the main, the authority of Council to mandate such projects as a part of its legislative authority, versus the need of the management team to justify the project to gain Council approval of management initiatives.

Notwithstanding this difference in the authority of the management team and the Council, projects result from Council or management initiatives should be subjected to the same evaluation process.

4.2 *The County should implement a management process for the demonstration program that addresses each step in the life of a demonstration project, culminating in a decision about a project's disposition.*

This process should include:

- a definition of demonstration projects, and standard means of selecting, administering, and evaluating them;
- a maximum total budget for the collective costs of all active demonstration projects (but no minimum should be established);
- a well defined objective for each project, and a clear budget, scope, and schedule for each;
- project selection criteria, which include considerations such as:
  - operating cost benefit – the project should have a specific operating expense budget, and an estimate of the benefits to be gained that supports the proposed expenses;
  - capital cost benefit – projects should have a capital cost budget, with the expectation that capital costs and the benefits ensuing from them are reasonably consistent with overall Division experience;
  - better way of doing business - the subject of the demonstration should be demonstrably different in concept and potentially better than current Transit Division and transit industry practice;
  - specific research objective - the project's research objective must link to one or more of the objectives stated in the active Six-Year Plan;
  - within the technical ability of the Division – the Transit Division must have the technical skills the are necessary to carry out the project;
  - period of performance - the concept to be demonstrated must be capable of demonstrating its viability within two years;

- evaluation criteria, which include considerations such as:
  - quantitative evaluation criteria for service expansion and pricing innovation projects, that measure the incremental ridership resulting from the project compared to the level of service provided and the costs incurred;
  - qualitative criteria for enhancement projects and other projects whose objectives are not readily translated into quantitative terms;
  - a combination of qualitative and quantitative criteria for projects which have both subjective and objective purposes;
- assignment of a project manager for each project with responsibility for evaluating and reporting reviews of each project at each 25% milestone to determine progress against objectives;
- revisions to projects as appropriate from time to time to improve their chances of success;
- explicit recommendations to revise, terminate, or "normalize" each project as the end of the demonstration period approaches, for consideration in the next budget period; and
- reports to the Executive and Council describing the outcome of the evaluation.

4.5 *The County should establish a project monitoring process that includes reports of the status of each active demonstration project.*

Each project manager should be responsible for making quarterly data inputs into the monitoring database. One office - most likely located within Budget and Finance - should be responsible for compiling and maintaining the inventory on the basis of contributions from the individual project managers throughout Metro.

The status report could be designed as a simple presentation matrix, with each demonstration project listed down a left-hand column and categorized by function — for example, service expansions, pricing innovations, and system enhancements.

The matrix could also include identify the project manager, and include columns listing project objectives, criteria for evaluation, costs, schedule, and recommendations for introducing the project into standard service, continuing the project on a one-time or temporary basis, or discontinuing the project altogether.

Support Activities

This chapter presents findings and recommendations on three topics related to transit support activities: (i) overhead costs; (ii) human resources; (iii) information systems; and (iv) transit technology.

The findings, conclusions, and recommendations for each of these audit areas are presented separately in the remainder of this chapter.

OVERHEAD COSTS

Overhead is a term that is frequently used, often with different definitions. Overhead in this analysis is defined as the support services needed to support the line functions (or services) provided by Metro Transit. The line functions include vehicle operations, vehicle maintenance and non-vehicle maintenance. Support services include the remaining activities which comprise most of the general and administrative (G&A) functional area.

This functional breakdown — vehicle operations, vehicle maintenance, non-vehicle maintenance, and general administration — is used nationally in the National Transit Database (NTD) reporting system. Transit systems across the country are required to submit annual reports to the Federal Transit Administration using the NTD system of financial accounts (formerly known as Section 15).

Metro Transit overhead was examined using this "NTD definition" of overhead. The financial information used in the examination came from three sources:

- The external auditors reports for the years 1993 through 1997;
- The National Transit Database (NTD) annual reports prepared by Metro for the years 1993 through 1997; and
- Financial information provided by the King County Finance Department.

This section presents an analysis of overhead costs, based on a comparison between the external auditor reports and NTD data. This is followed by an analysis of trends in general administrative expenses, an analysis of overhead cost allocations to Metro Transit from the County government, and a comparison of Metro Transit's overhead costs to those of its peers.

We found that Metro Transit's overhead costs are reasonable and stable. These costs account for about the same percentage of operating costs as the peer group average.

The analysis of overhead costs is complicated by the existence of two separate financial systems, and the lack of reconciliation between external auditor reports and Metro Transit's NTD submittal. We elaborate on these conclusions and present recommendations at the close of this section.

EXTERNAL AUDITOR REPORTS

The financial reports prepared by the County's external auditors indicate that G&A expenses ranged from 19% to 24% of total operating expenses between 1993 and 1997 (Exhibit 5.1, page 5-3). For this analysis, G&A expenses are the sum of two separate line items in the auditor's revenue and expense statements — general and administrative expenses and marketing and service planning expenses.

The trends in "true" G&A expenses are masked by the auditors' inclusion of purchased transportation expenses in the totals. Purchased transportation expenses cover:

- the operation of selected Metro Transit services by private contractors, which are normally considered to be line function expenses; and
- the administrative costs incurring by Metro Transit for managing contracted services.

The auditor's reports do not identify the costs of contracted services. Therefore, we used the contractor costs reported in the NTD reports to adjust (reduce) the G&A expenses.

When contractor payments for purchased transportation are excluded from G&A expenses, the auditor's reports show that G&A expenses declined from 20% of operating costs in 1993 to 14% in 1997. The largest change occurred between 1993 and 1994 when G&A expenses declined from 20% of total operating expenses to 15%.

NATIONAL TRANSIT DATABASE REPORTS

The trend results from the NTD reports are similar to those from the external auditor reports, particularly when purchased transportation expenses are excluded from G&A expenses. The NTD reports show that general administrative expenses declined from 26 to 16 percent of total operating costs between 1993 and 1997 (Exhibit 5.2, page 5-3). When the costs of contracted (purchased) transportation are excluded, G&A expenses show a decline from 22 percent of total operating expenses in 1993 to 14 percent in 1997. This is similar to the decline from 22 percent to 14 percent derived from the external auditor's report.

Exhibit 5.1
General and Administrative Expenses 1993 through 1997
External Auditor Reports

	1993	1994	1995	1996	1997
Operations & Maintenance	$171,958,000	$185,549,000	$191,139,000	$202,332,000	$217,914,000
General & Administrative/Planning (1)	$53,063,000	$47,839,000	$46,123,000	$57,303,000	$61,912,000
Total Operating Expenses (2)	**$225,021,000**	**$233,388,000**	**$237,262,000**	**$259,635,000**	**$279,826,000**
Purchased Transportation (3)	$7,570,457	$11,827,338	$11,298,835	$16,136,129	$22,825,667
G&A less Purchased Transportation	**$45,492,543**	**$36,011,662**	**$34,824,165**	**$41,166,871**	**$39,086,333**
percent of operating expenses					
General & Administrative/Planning	23.6%	20.5%	19.4%	22.1%	22.1%
G&A less Purchased Transportation	20.2%	15.4%	14.7%	15.9%	14.0%

(1) Include General and Adminstrative Expenses and Marketing and Service Planning Expenses
(2) Operating Expenses do not include Depreciation and Amortization Expenses
(3) The values of purchased transportation costs are the reported contractor costs from the National Transit Database reports

Exhibit 5.2
General and Administrative Expenses 1993 through 1997
National Transit Database Reports

	1993	1994	1995	1996	1997
Operations & Maintenance	$167,330,682	$179,185,818	$195,244,854	$219,439,316	$231,985,988
General & Administrative	$58,426,303	$53,875,053	$41,861,073	$35,038,625	$43,576,323
Total Operating Expenses (1)	**$225,756,985**	**$233,060,871**	**$237,105,927**	**$254,477,941**	**$275,562,311**
Purchased Transportation (2)	$7,570,457	$11,827,338	$0	$0	$4,169,720
G&A less Purchased Transportation	**$50,855,846**	**$42,047,715**	**$41,861,073**	**$35,038,625**	**$39,406,603**
Percent of Operating Expenses					
General & Administrative/Planning	25.9%	23.1%	17.7%	13.8%	15.8%
G&A less Purchased Transportation	22.5%	18.0%	17.7%	13.8%	14.3%

(1) Operating Expenses do not include Depreciation and Amortization Expenses
(2) The values of purchased transportation costs are the reported contractor costs that were reported in the general & administrative function

Exhibit 5.3
Comparison of Total Operating Expenses
External Auditor and National Transit Database Reports

	1993	1994	1995	1996	1997
External Auditor Reports	$225,021,000	$233,388,000	$237,262,000	$259,635,000	$279,826,000
National Transit Database	$225,756,985	$233,060,871	$237,105,927	$254,477,941	$275,562,311
Difference (Auditor - NTD)					
Absolute	**-$735,985**	**$327,129**	**$156,073**	**$5,157,059**	**$4,263,689**
Percent of Total Operating Expenses (Auditors Report)	**-0.3%**	**0.1%**	**0.1%**	**2.0%**	**1.5%**

(1) Operating Expenses do not include Depreciation and Amortization Expenses

COMPARISON OF EXTERNAL AUDITOR AND NTD REPORTS

Both reports indicate that Metro Transit's G&A expenses declined significantly as a percent of total operating costs between 1993 and 1997. This reduction over the five years was between 6% (auditors) and 8% (NTD).

Although the G&A trends are generally consistent in these two reports, there are some significant differences in reported expenses between the external auditor and NTD reports. The differences in total operating expenses ranged from $156,000 (1995) to over $5 million (1996) (Exhibit 5.3, page 5-3), or –0.3% to 2.0% of operating costs.

Under the rules for NTD reporting, the external auditor is required to compare the operating expenses with audited financial data (see Exhibit A-1 in *1998 National Transit Database Reporting Manual*). We discussed this issue with Metro's external auditors — Arthur Andersen (1993 through 1995) and Deloitte and Touche (1996-1997). We agree with Arthur Andersen's response that the differences for 1993 through 1995 were not material. These differences ranged between $156,000 and $736,000 or less that 0.3 percent of total operating expenses.

We disagree with the same position taken by Deloitte and Touche. The differences exceed $4 million in 1996 and $5 million in 1997, or more than 1.5 % of total operating expenses. The definition of materiality is subjective and can differ among auditors. However, we feel that differences of this magnitude should have been reconciled.

The comparison of the auditor's and NTD reports also identified the following differences in the presentation and definition of G&A expenses:

- the auditor's reports show marketing and service planning as a separate line item from general and administrative expense, whereas the NTD report includes it as part of G&A expenses; and
- the auditor's reports include total purchased transportation expenses as a part of marketing and service planning, though the NTD report in 1996 and 1997 includes only the G&A portion of these expenses.

Casual readers of these reports could reach inaccurate conclusions about G&A expenses if these presentation and definitional differences are not considered. We discussed this issue with the external auditors. They said that they could easily revise the presentation of the auditor's report to be more consistent with the NTD reports if Metro Transit requested these changes.

Exhibit 5.4
Comparison of General Administration Expense Object Classes
1993 and 1997 National Transit Database Reports

	1993	1997	change 1993 to 1997	% change
Labor				
Operator Salaries and Wages	$ 303,114	$ -	$ (303,114)	-100.0%
Other Salaries and Wages	18,509,282	13,418,868	(5,090,414)	-27.5%
Fringe Benefits	11,894,026	4,964,324	(6,929,702)	-58.3%
Services	8,097,193	11,716,307	3,619,114	44.7%
Materials and Supplies				
Fuel and Lubricants	28,242	14,362	(13,880)	-49.1%
Tires and Tubes	-	501	501	
Other Materials and Supplies	1,885,489	1,073,786	(811,703)	-43.0%
Utilities	1,059,346	262,697	(796,649)	-75.2%
Casualty and Liability Cost	8,036,318	5,136	(8,031,182)	-99.9%
Taxes	437,721	374,136	(63,585)	-14.5%
Purchased Transportation	301,931	5,895,398	5,593,467	1852.6%
Miscellaneous Expense	1,185,974	957,137	(228,837)	-19.3%
Expense Transfers	(882,790)	723,951	1,606,741	-182.0%
Total General Adminstration Expenses	$ 50,855,846	$ 39,406,603	$ (11,449,243)	-22.5%
Total Operating Expenses	$ 225,756,985	$ 275,562,311	$ 49,805,326	22.1%
Total System Vehicle Hours	3,199,361	3,796,335	596,974	18.7%

note: the purchased transportation costs above exclude contractor payments.

FUNCTIONAL ANALYSIS

An effort was made to assess the trends in overhead costs for individual functions serving Metro Transit operations, such as marketing, planning, sales and customer service, management information, and other activities. We wanted to assess the effects of the merger on Metro Transit overhead costs between 1993 and 1997.

We requested annual expenditures by individual activity from the County Department of Finance in January. The Department of Finance did not provide this information.

As an alternative, we examined trends in the functional activities using the data reported in the 1993 and 1997 NTD. Between 1993 and 1997, total G&A expenses declined 23%, from $50.9 million to $39.4 million (Exhibit 5.4). During this same period, total operating expenses increased 22% ($225.8 million to $275.6 million) and service levels increased 19 %. The decrease in overhead cost is remarkable in comparison to the increases in operating costs and service, but may be partially attributable to the reclassification of some expenses.

The NTD data suggests that the largest changes in G&A expenses occurred in two areas:

- salaries, wages, and associated fringe benefits dropped by $12 million, and
- casualty and liability costs of $8.0 million in 1993 were reduced to only $5,136.

The virtual elimination of casualty and liability expenses was suspect and cast doubt on the reported G&A expenses. We discussed our concern with the Department of Finance. The Department indicated that many services formerly provided by Metro Transit are now provided by other County departments or offices on a charge-back basis. The Department was reporting these expenses in NTD object class 503 (services).

This shift of reporting is not consistent with NTD reporting requirements. The County charges should be reported in the appropriate object class and not under the services object class. As stated on page 300-14 of the *1998 National Transit Database Reporting Manual*:

> *Services*: *If your transit agency is organized as a department of a State or local government or part of a multi-functional organization, for NTD reporting your transit agency does not purchase services from other parts of the governmental entity or multi-functional organization. Report all expenses for activities pertaining to the transit services, but performed by these other departments or offices within the governmental or multi-functional entity, in the appropriate object class and function. Do not use object class 503-Services; this object class is for management, professional, or temporary labor services of personnel who are not employees of the transit agency, the governmental body, or the multi-functional organization. For example, if the transit agency is a department of a county government and the county highway department maintains the transit vehicles, report expenses under the vehicle maintenance function. Report maintenance labor expenses in object class 501.01, fringe benefit expenses in object class 502, and materials and supplies for the maintenance in object class 504.*

We discussed this reporting issue with the Finance Department. The Department agreed to change its reports to be consistent with these requirements.

The Department supplied a spreadsheet to show how the G&A expenses for 1997 were reported. The expenses are presented using the Integrated Business Information System (IBIS) Accounting Classifications.

The Department stated that the casualty and liability expenses were included as part of County charges listed as Central Services Overhead. The expenses for Central Services Overhead listed in the IBIS spreadsheet were $10,272,127.

However, according to the County Central Rate Book, the expenses for casualty and liability are a separate allocation and are not included in Central Services Overhead. This is consistent with the following charges listed in the 1999 County Budget for Metro:

- Central Services Overhead (CX and Other) $9,575,759
- Risk $7,528,681

The budgeted value for risk is same order of magnitude with the $8,036,318 in casualty and liability expenses listed in the 1993 NTD report.

We discussed this problem with the Finance Department. The Department stated that the risk management expenses were classified under the vehicle operations function and not under the general administration function as required by the NTD (*1998 National Transit Database Reporting Manual*, page 300-19)

Since the Finance Department is not including the County risk expenses under general administration expense in the NTD reports, the G&A expenses are understated, and consequently all other expenses are overstated. When risk expenses are correctly assigned, the G&A expenses for 1997 increase to approximately $47 million, or about 17% of total operating costs.

ALLOCATION OF COUNTY CHARGES TO TRANSIT

The County runs two separate general ledger accounting systems — the County Accounting Resource Management System (ARMS), which is used by most of the County, and the Metro Transit IBIS. The November 1998 Financial Oversight Report prepared by Leon Snead & Company (LS&C) recommends that the County implement one integrated accounting system with only one general ledger. The County is in the process of purchasing a software package that will address this problem. The scheduled implementation date is May 1, 2000.

Until the County implements one integrated accounting system, the County cannot automatically charge Metro Transit for services provided by other County departments. Rather, these expenses may be centrally charged and then allocated to Metro Transit, or manual entries can be made for interfund transfers.

Almost $34 million of County services are budgeted for Metro Transit in 1999 (Exhibit 5.5, page 5-8). The largest charges include central services overhead ($9.6 million), risk or casualty and liability ($7.5 million), and ITS charges ($4.5 million). Together, these three charges represent $21.6 million or about two-thirds of the County services provided to Metro.

We reviewed the basis for allocated all non-ITS expense to Metro Transit (Exhibit 5.5). The cost allocation methods appeared reasonable, fair, and related to factors that “drive” the costs.

Exhibit 5.5
County Intergovernmental Charges
Proposed 1999 Budget Levels and Allocation Basis

Type of Expense	Proposed 1999 Budget	Allocation Basis
Central Services Overhead (CX and Other)	$9,575,759	
General Government		Adjusted Actual Operating Expenditures
Fixed Assets and Real Property Management		Asset Value
State Auditor		ARMS/IBIS Accounting Transactions
Records Management		Adopted FTEEs
Budget Services		Analyst Time
Strategic Planning		Adjusted Actual Operating Expenditures
Personnel Services		Adopted FTEEs
Ombudsman		Actual Complaints
Bus Pass Subsidy		Adopted FTEEs
Building Occupancy		Square Footage Occupied
Countywide Mail Services		Adopted FTEEs
Workers Compensation (Centralized Portion)	$313,035	Workers Compensation Expense
ITS Charges	$4,455,764	
ITS Infrastructure		Adopted FTEEs for WAN/Internet*
		E-mail Users for E-Mail Costs
ITS Existing Programs		Historical Use of Mainframe and Analysts
ITS New Development		Estimated Hours to Perform New Work
GIS O&M		Arc/Info Licenses
Finance Internal Services	$3,358,449	Central System Financial Transactions
King Street Center	$2,828,508	Floor Space and Lease Costs
Motor Pool Charges	$2,573,810	Hourly, Daily, Monthly Rates
Financial System Debt Service	$1,825,509	Costs of Projects Funded by Debt
Prosecuting Attorney	$693,744	Past Year Time Records and Proposed Use
Risk	$7,528,681	Historical Loss Experience Plus Special Insurance Premiums
B&O Taxes	$568,240	Not reviewed
Staffing/Loan in Labor	$56,600	Time Records
Total	$33,778,099	

Sources: County Rate Book and County 1999 Proposed Budget
FTEEs = Full Time Equivalent Employees
* bus drivers and mechanics are not direct users

The estimation and allocation of ITS expense to all County departments was the subject of another audit report prepared by the County Auditor's Office (see Report No. 98-06, *Information and Telecommunications Services Infrastructure Operating and Maintenance Costs*).

PEER GROUP COMPARISON

We compared Metro Transit's overhead to the reported overhead costs of other peer transit systems. This comparison was made using NTD data reported for fiscal year 1997.

Overhead was defined as the expenses reported in the NTD function *general administration*. Adjustments were made to the reported data for purchased transportation expenses to insure that operating and maintenance expenses were not included in general administration expenses.

Exhibit 5.6
Peer Group Comparison of General Administration Expenses
1997 National Transit Database Reports

System	G&A Expense % of total	adj.
Metro Transit – as reported	14%	
adjusted for risk cost reclassification		17%
Baltimore	17%	
Cleveland	22%	
Dallas	22%	
Denver	15%	
Houston	5%	
Milwaukee	12%	
Minneapolis	17%	
Oakland	17%	
Pittsburgh	9%	
Portland	22%	
San Francisco	16%	
St. Louis	17%	
Average	16%	
Minimum	5%	
Maximum	22%	
Metro Transit Rank (1=Best/Lowest of 12 Systems)	4	6
Percent of average	90%	106%

Metro's reported overhead in 1997 — measured as a percent of total operating expenses — was low when compared to other peer transit systems (Exhibit 5.6). Metro Transit's overhead value of 14 % was lower than the peer group average of 16%. The overhead values for the peer group ranged from a low of 5% in Houston to high of 22% in three cities —Cleveland, Dallas, and Portland. Metro Transit's performance ranked 4th out of the 12 systems in the peer group.

When Metro Transit's overhead costs are adjusted to account for the reclassification of risk expense, as described in the section above, its ranking changes slightly. It then ranks 6th among the peer systems, with a slightly higher percentage of overhead cost (17%) than the peer group average (16%).

CONCLUSIONS: OVERHEAD COSTS

- Metro Transit's overhead cost is reasonable compared with other transit systems. Measured as a percent of total operating expenses, Metro Transit's overhead is very close to the average of the peer transit systems.
- For non-ITS expenses, the allocation methods used to allocate County services provided to Metro Transit appear reasonable, fair, and related to factors that "drive" the costs. The ITS cost allocation was evaluated in a separate audit report (No. 98-06, prepared by the County Auditor).
- The Finance Department does not have the ability to easily generate financial data for special analyses. It did not respond to our request for trend data on overhead costs for functional activities such as marketing, planning, sales and customer service, management information, and other support activities.
- The operation of dual accounting systems — ARMS and IBIS — is a serious problem. It may be a contributing factor to the difficulty in generating trend data.
- The external auditors and NTD reports use different formats and are probably confusing to many readers. A common definition of G&A expenses is needed.
- Under the rules for NTD reporting, the external auditor is required to compare the operating expenses with audited financial data. The external auditors in 1996 and 1997 did not investigate differences that exceeded $4 million because they were deemed to be immaterial in comparison to total operating expenses.

RECOMMENDATIONS: OVERHEAD COSTS

5.1 *The County should implement one integrated accounting system as soon as possible.* This implementation would allow the County to directly charge some expenses that are now allocated. It might also help the financial department more easily generate financial data for special analyses.

5.2 *Metro Transit should revise the presentation of the auditor's report to be more consistent with the NTD reports with regard to the presentation of general administration expenses.*

5.3 *Metro Transit should discuss with its external auditor the issue of materiality when the external auditors compare the operating expenses submitted in the NTD reports with audited financial data.*

HUMAN RESOURCES

This part of the audit focused on the organization of the human resource function, the performance of this function, and the potential for transferring open positions to bus operations.

We found several opportunities to improve the management of this function. A stronger client relationship should be established between the Office of Human Resources Management (OHRM) and the Transit Division. The Transit Division should more closely involved in OHRM initiatives and labor policy. OHRM and the Transit Division should establish a collaborative process for analyzing the impact on transit of changes in human resource policy, before a commitment is made to implement the policy. Please refer also to chapter 1 of this report for additional discussion on human resource policy as it affects transit.

ORGANIZATION

The human resources activities of a transit system such as Metro Transit are critically important to the success of the organization. Transit is a labor-intensive industry, and the selection, training, and development of the staff of a transit agency determines very largely the ability of a transit agency to fulfill its mission.

The management of the human resource function is currently distributed among the OHRM and the Transit Division Office of Human Resources. From time to time, when there are peaks in hiring and human resource staff are not available to meet the demand, Transit Division base managers have participated in screening job applicants.

The role of the OHRM is a combination of policy-making and program administration. It is responsible for overall policy direction for the County's human resources programs. The OHRM staff administers the human resources programs for all County employees. This includes administering the personnel system, the County's employee benefits program, the workers' compensation program, the Diversity Management Program, and the compensation and classification plan.

The Transit Division Human Resources office performs most of the day-to-day personnel and labor agreement administration activities for the Division, including recruiting, selection, and hiring, personnel records administration, labor agreement negotiation and administration, grievance and discipline administration, and benefits administration. The base managers have assisted in the selection and recruitment of drivers and mechanics.

The overall labor relations activities are divided between the OHRM and the Transit Division Human Resources office. The County establishes policies and objectives for the collective bargaining process, and shares co-lead responsibilities with the Transit Division in bargaining sessions. The Transit Division staff administers the day to day contract administration manages the collective bargaining, within the policies and objectives of the County.

Exhibit 5.7
King County Metro Management Audit
Review of Human Resources Activities

Operating Costs	1993	1994	1995	1996	1997	% change, 1993–1997	avg. annual change, 1993–1997
Operators' wages	$54.99	$54.94	$57.10	$61.03	$65.20	18.60%	4.30%
Other wages & Salaries	55.74	56.54	53.18	57.39	59.48	6.70%	1.60%
Fringe Benefits	55.93	57.99	53.19	59.92	62.12	11.10%	2.70%
Total Compensation	$166.66	$169.47	$163.47	$178.34	$186.80	12.10%	2.90%
Total Operating Costs	225.76	233.06	237.11	254.48	275.56	22.10%	5.10%
Compensation as a % Total Costs	73.80%	72.70%	68.90%	70.10%	67.80%	-8.20%	-2.10%

costs in millions

PERFORMANCE OF THE HUMAN RESOURCES FUNCTION

The performance of the human resources function was evaluated by analyzing cost trends, managers' perceptions of quality and responsiveness, and the average length of employment vacancies. Each of these are summarized below.

COSTS OF HUMAN RESOURCES

The direct costs of human resources at King County Metro have increased by 12.1% over the past five years, but have declined as a percent of total costs. Total costs of compensation increased from $166.7 million in 1993 to $186.8 million in 1997. From 1993 to 1997, total compensation costs as a percent of all operating expenses declined from 73.8% to 67.8% . The trends in these costs are provided on Exhibit 5.7.

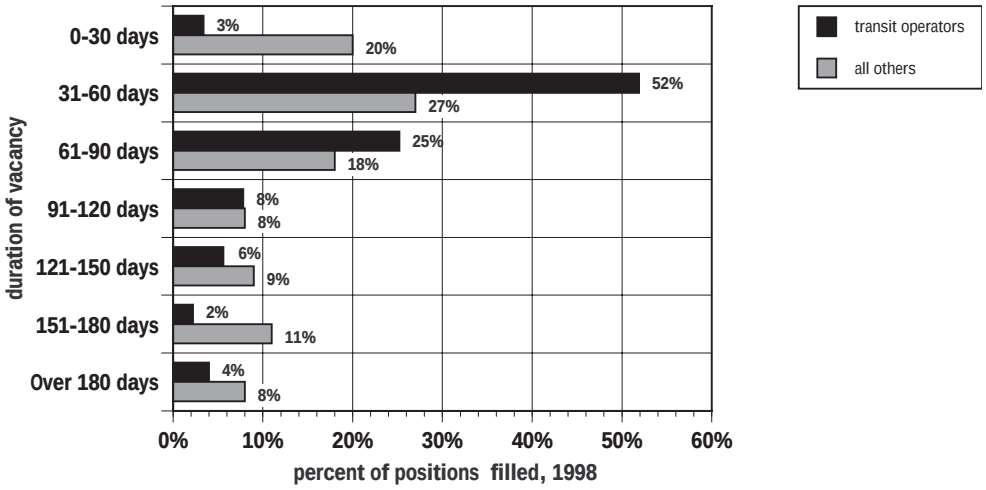
The costs of compensation have grown at the rate of 2.9% for total compensation for the five year period, and 4.5% for the last three years. This rate of growth is somewhat less than that of the total costs of operations, which were 5.1% for both periods.

MANAGER COMMENTS ON HUMAN RESOURCES

A survey of senior management personnel at Metro Transit Division included a number of comments on human resource management issues. The major issues cited by the managers included:

- uncertainty regarding permanent titles and salaries caused by the length to complete the compensation and classification study; and
- reductions in the salaries of some incumbent managers, at the direction of the County at the time of the merger, which is perceived to have led to the formation of a union by middle managers, and to have encouraged the departure of several Metro managers to accept other jobs elsewhere.

Exhibit 5.8
Duration of employment vacancies



AVERAGE LENGTH OF VACANCIES

The average number of days to fill an open position is within expected ranges of the time required for the process of requesting the hiring, establishing the availability of a position, posting the job internally within the County, advertising for the position, evaluating applications, recruiting, evaluating, and selecting candidates.

In 1998, the average length of time that a non-driver position was open was 89.5 calendar days, or just under three months from a request for a position to filling that position. The range of time for filling jobs is illustrated on Exhibit 5.8. About 65% of non-operator positions are filled within 90 days of the posting.

Bus operator vacancies tend to get filled somewhat faster, on average between 45 and 50 days. Over 80% of these jobs are filled within 90 days.

At the end of March, 1999, there were 102 open positions for which a request for position had been created but for which no incumbent was in place. Of these, 56 had been open for less than six months. A number of the open positions were not being actively recruited because the jobs were being filled on a temporary basis by a current employee, or were being held open for a variety of other reasons.

Most managers requesting positions allow for the normal time attributable to the recruitment process. A total of over 17,000 days of vacancies were reported in 1998. This amounts to the equivalent of approximately 80 full time equivalents, after allowing for vacations and holidays and other absences. In a work force that

totals in excess of 2,500 people, the impact on the programs as a whole would be very small and very hard to identify and measure.

The amount of time that is in excess of this normal 90 days is often unavoidable and attributable to the scarcity or competitiveness of the skills indicated for the job. Another complicating factor is the implications of filling positions by promotion from within. This often has the impact of cascading more hirings through the process and adversely effecting the statistics. This appears to be especially true in information systems positions, a particularly competitive field.

IMPACT OF TRANSFERRING OPEN FTE POSITIONS TO BUS OPERATIONS

The opportunity for transferring open FTE positions to bus service operations is limited in view of the fact that the authorized staffing level for bus operators is adequate for the needs of the current and planned service levels. There is no need to transfer open positions to bus service operations. In fact, there tends to be a backlog in open bus operator positions due to the competitive market for such candidates and the rapid expansion in service levels.

The impact of such a transfer would be to reduce the presumably needed resources of the non-operating units and add unneeded positions to the bus service operations.

The idea of needing to transfer open non-operating positions to operating positions is made moot by the fact that Metro has been able to fill all the authorized operating positions without the need to transfer open positions to operations.

Of the 491 positions filled in 1998, 322 were bus drivers and 169 were other staff requirements, including vehicle and facility maintenance as well as administrative, planning, and support people.

CONCLUSIONS: HUMAN RESOURCES

- The Transit Division should be more closely involved in OHRM initiatives and the development of labor policy. Past labor policy decisions made by the County with little transit involvement have contributed to poor morale within the Transit Division.
- The average number of days to fill an open position is within expected ranges of the time required for the process of requesting the hiring, establishing the availability of a position, posting the job internally within the County, advertising for the position, evaluating applications, recruiting, evaluating, and selecting candidates.
- The idea of needing to transfer open non-operating positions to operating positions is made moot by the fact that Metro has been able to fill all the authorized operating positions without the need to transfer open positions to operations.

RECOMMENDATIONS: HUMAN RESOURCES

5.4 *The OHRM should establish the Transit Division as one of its primary clients.* Impacts on transit should be explicitly considered prior any policy initiatives undertaken by OHRM. OHRM should collaborate with the Transit Division on these analyses, and the Transit Division should have the right to appeal to the Executive any initiatives that would create adverse impacts for the Division. Any subsequent division of responsibilities between OHRM and the Transit Division should respect this client relationship.

5.5 *The compensation-classification study should be expedited and concluded at the earliest possible date.* Giving high priority to the completion of this study would be an important signal to the County's largest workforce that it is a vital component of the services provided by the County, and that its contribution is appreciated.

INFORMATION SYSTEMS

This part of the audit reviewed and evaluated the roles and responsibilities of the Transit Division's Management Information and Transit Technology (MITT) section, in comparison to those of the Information and Telecommunications Services (ITS) division of the County's Department of Information and Administrative Services. This task focused on defining the work responsibilities, work plans, and products of these two organizations, and their comparative cost.

The division of tasks between the County ITS and the Transit Division is logical, with no major misplacement of responsibilities. However, there are some issues that can be addressed to further improve efficiency and effectiveness and to enhance the ability of the County and the Transit Division to work together. These stem from ambiguities in roles and responsibilities, gaps in service coverage, and a lack of mutually-agreed performance indicators, measures, or goals for evaluating the services provided to the Transit Division by ITS. Recommendations include: (i) clearly delineating the functions and responsibilities of the two organizations; (ii) expanding ITS responsibility to achieve economies of scale for LAN administration, purchasing of desktop equipment, technical database administration for large databases, and establishing standards and preferences; and (iii) developing performance measures to evaluate the quality and timeliness of services provided to the Transit Division by ITS.

The evaluation of comparative costs was inconclusive. The current division of responsibilities between ITS and the Transit Division does not support a direct comparison of information technology costs. Although there is a difference in the hourly rates between the County and the Transit Division, it results mostly from the method of allocating overhead costs. The method of allocating ITS costs to the Transit Division is generally a fair representation of cost consumption, with the

exception of GIS costs and infrastructure costs. Both appear to be overstated. A separate audit of ITS infrastructure cost allocation was prepared earlier this year by the King County Auditor (Report 98-06).

CURRENT RESPONSIBILITIES, PLANS, AND PRODUCTS — ITS

This section outlines current responsibilities, plans and products based on a review of written documentation and interviews with ITS and MITT personnel. Detailed responsibilities are presented for County ITS and Transit Division MITT followed by audit findings and recommendations.

SYSTEM ADMINISTRATION FOR UNIX AND OVMS SERVERS

ITS provides operations, administration and support for Transit's servers that run Unix and OpenVMS operating systems (non-Intel based). This function includes:

- Backup/archives
- Routine administration and maintenance (disk condition and space, startup/shutdown, monitor processes and logs, etc.)
- User account maintenance
- Hardware/software maintenance, including
  - Updating vendor maintenance contracts and coordinating vendor maintenance
  - Applying patches
  - Replacing failed components
  - Coordinating maintenance schedule and maintaining a maintenance log
  - Analyzing the impact of maintenance activities
- Security administration
- Performance monitoring and tuning
- System and Process Enhancement
- Disaster recovery
- Troubleshooting, documentation, 2nd level help desk support and technical answers

This function assumes that the server environment is stable. It does not include assessing future requirements and needs or implementing upgrades or replacements.

This function is performed by ITS Infrastructure – Distributed Systems (7 positions total). It covers the distributed Transit Division servers (located outside of the Key Tower data center) running UNIX and OpenVMS, except for the two dUNIX servers dedicated to the Automated Vehicle Location application – Kenya (CAD/AVL system manager) and Cayman (back-up for Kenya) located at Exchange 12th Floor. ITS does not support Novell servers. Servers supported by ITS for the Transit Division are shown in the Exhibit 5.9 (page 5-18).

WIDE AREA NETWORK (WAN) OPERATIONS AND MAINTENANCE

ITS is responsible for designing, implementing, operating, and managing all King County WAN hardware and software systems and equipment, as well as communications media and external service providers. This includes troubleshooting network problems, conducting performance monitoring and making necessary modifications and improvements. The King County WAN is defined as all systems and equipment to and including routers. Local Area Networks and connections to the router are not included in the WAN services provided by ITS, although ITS will provide consulting assistance for new LAN installations or upgrades.

This function is performed by ITS Infrastructure – Data Communications (11 positions total).

KING COUNTY E-MAIL ADMINISTRATION AND MANAGEMENT

ITS is responsible for providing e-mail and calendaring to the Transit Division, including the management of all systems and equipment, as well as user account administration and training and technical support (answering questions). The servers operated and maintained for e-mail are listed in the following table.

Server Name	Operating System	Location	Function
Keyxserv2	WinNT	Key Tower 24th Floor	Mail Servers
Keyxserv3	WinNT	Key Tower 24th Floor	Mail Servers
Keyxserv6	WinNT	Key Tower 24th Floor	Mail Servers

This function is performed by ITS Infrastructure – E-Mail Services (5 positions total).

Exhibit 5.9
Servers Supported by ITS for the Transit Division

Server Name	Operating System	Location	Function
Abyss	OVMS	Exchange 2nd Floor	Database Server
Aris	OVMS	Exchange 2nd Floor	Database Server
Atlas	dUNIX	Exchange 2nd Floor	ITS Console Server
Boris	dUNIX	Exchange 2nd Floor	GIS Development
Kali	OVMS	Exchange 2nd Floor	Database Server
Mazama	dUNIX	Exchange 2nd Floor	Database Server
Prince	OVMS	Exchange 2nd Floor	Database Server
Rowdy	OVMS	Exchange 2nd Floor	Operations Workstation
AOd1	SCO Unix	Exchange 2nd Floor	Voice response
AOd2	SCO Unix	Exchange 2nd Floor	Voice response
AOd3	SCO Unix	Exchange 2nd Floor	Voice response
Widget	dUNIX	North Base	Database Server (OSS)
Wrench	dUNIX	Exchange 2nd Floor	Database Server
TransDBA	dUNIX	Exchange 2nd Floor	Database Server
Mariner	Unix	Off Site	OSS Development
Hammer	dUNIX	Key Tower 24th Floor	
Nommos	Unix	Key Tower 24th Floor	Web Server
Dec 01	OVMS	Key Tower 24th Floor	SNA Gateway
Sluggo	OVMS	Key Tower 24th Floor	SNA Gateway Load Host
Artemis	dUNIX	Key Tower 24th Floor	Web Server

DATA CENTER OPERATIONS AND MANAGEMENT

ITS operates the data center located on the 24th Floor of Key Tower. The data center operation covers the IBM mainframe and Prime minicomputers. (Other servers in Key Tower are included in the functions performed by Distributed Systems). Data center functions include:

- Backup/recovery
- Operating system support/upgrades
- network connectivity within the data center and connection to the WAN
- Data center environment management
- Data center operations
- Hardware maintenance and upgrades

This function is performed by ITS Infrastructure – Operations (13 positions total).

The computer equipment (excluding servers) in the data center used or shared by the Transit Division includes the following:

Server/Computer Name	Type	Operating System	Function
IBM Multiprise	Mainframe	MVS/ESA	Multiple applications
X2	Prime Mini	PrimeOS	Multiple applications
X6	Prime Mini	PrimeOS	BOSS
X8	Prime Mini	PrimeOS	Multiple applications

The Transit Division's current target is to move all applications from data center computers by the end of the year 2000. The implementation of the replacement for the Base Operations Support System (BOSS) must occur before vacating the Prime computer.

MULTI-DIVISION/DEPARTMENTAL APPLICATIONS OPERATION AND MAINTENANCE

ITS is responsible for operating and maintaining applications that are used by multiple County Divisions or Departments. The applications maintained by ITS that the Transit Division shares with other departments or divisions include:

- Financial Systems (IBIS and ARMS)– G/L, Purchasing, Inventory
- Payroll

IBIS support is performed by ITS Application, Design & Support Section – IBIS (4 positions total).

KING COUNTY-WIDE GEOGRAPHIC INFORMATION SYSTEM (GIS) OPERATION AND MAINTENANCE

ITS performs selected functions for the operation and maintenance of a County-wide GIS. The County-wide database will have approximately 14 layers when in full production in the 4th quarter 1999. At that time, the Transit Division will assume responsibility, along with other King County Departments, for the maintenance of the data layers. ITS will provide and support centralized applications and hardware for the maintenance of core GIS data layers, but the actual maintenance activities will be performed using the resources of other departments. In addition, Transit will maintain data that is specific to the Transit Division using internal applications and infrastructure.

GIS O&M support is performed by the ITS GIS Section (8 positions total). This section also provides other non-O&M client services on a cost reimbursable basis to Transit, other County departments, and outside agencies. These services include

custom GIS programming, map production, and training. These services are provided by 3 non-O&M positions.

FIRST LEVEL (TIER 1) HELP DESK SERVICES

ITS operates an "800-line" type Help Desk for all departments and divisions, including the Transit Division. The Help Desk is the first level of telephone support covering all questions and problems relating to hardware, software, or communications. The Help Desk answers WAN/PC questions , including some questions relating to common PC software. Other questions (tier 2) are referred to the designated department or employee responsible for the application or system.

This function is performed by ITS Infrastructure – Help Desk (5 positions total).

PROJECT AND OTHER ASSISTANCE

ITS provides personnel for projects and other assistance upon request by the Transit Division. ITS operates as an internal personnel resource when the Transit Division requires additional staff or expertise that is not available within the Transit Division.

Currently, ITS Application, Design & Support Section – General Systems has two employees providing assistance to the Transit Division (not full-time).

VENDOR CONTRACT ADMINISTRATION

ITS is responsible for establishing, managing and renewing vendor contracts for information technology related services and equipment, including hardware/ software maintenance contracts and licenses for software spanning multiple departments and divisions (e.g. licenses for Oracle database products).

OVERALL SYSTEMS MANAGEMENT AND PLANNING

ITS performs general management and administration for all sections providing support to the Transit Division. In addition, ITS provides long range planning, including support and representation for the King County Information Resources Council.

CURRENT RESPONSIBILITIES, PLANS, AND PRODUCTS — MITT

PLANNING, DEVELOPMENT AND IMPLEMENTATION FOR PUBLIC TRANSIT SPECIFIC TECHNOLOGY

MITT is responsible for planning, formulating and conducting capital projects that result in new or major replacement applications and systems related to public transit. Examples of recent projects include fare collection technology (e.g. Smart Card), automated passenger counting, and automated vehicle location applications.

MITT can contract with ITS or external vendors for additional resources for these projects, if required.

This function is performed by MITT – Systems Management & Analysis and Administration groups (19 total positions for functions).

OPERATION AND MAINTENANCE FOR TRANSIT AVL APPLICATIONS AND TECHNOLOGY

MITT has overall responsibility for operating and maintaining information systems and technology for transit Automated Vehicle Location and related transit operations software and equipment. This includes system administration, operations and support for the two dUNIX servers dedicated to the Automated Vehicle Location application (Kenya and Cayman located at Exchange 12th Floor) along with associated desktop PCs and equipment. Transit service and control center operations require that these systems be supported 24 hours per day, 7 days per week. Therefore, these dUNIX servers are supported directly by the Transit Division rather than included with the dUNIX servers supported by ITS. MITT also administers the vendor contracts for these systems.

This function is performed by MITT – Systems Management & Analysis.

EQUIPMENT ARCHITECTURE, INSTALLATION AND MAINTENANCE FOR TRANSIT SPECIFIC HARDWARE

The Transit Division is responsible for installing and maintaining hardware and equipment specific to public transit, such as automated passenger counter hardware, on-board data terminals, antennas, radios and related equipment. The Transit Division is also responsible for architecture and standards for transit specific hardware.

This function is performed by MITT – Systems Management & Analysis, as well as other Transit Division sections (e.g., for radio maintenance)

TRANSIT DIVISION APPLICATIONS OPERATION, MAINTENANCE AND SUPPORT

The Transit Division operates and supports applications that are used exclusively by the Transit Division. This covers approximately 39 application software systems to support such transit functions as scheduling, runcutting, dispatch, operator pick, Base operations, bus maintenance, ridership information, etc.

MITT – Transit System Support section (16.4 positions) provides applications programmers and systems analysts to maintain, enhance and otherwise support these production systems. In addition, this group creates interfaces between the applications, develops small programs for specialized reporting and other functions, and manages the data produced by these applications. This group coordinates vendor activities for vendor maintained software packages.

LOCAL AREA NETWORK (LAN) AND DESKTOP EQUIPMENT ADMINISTRATION AND SUPPORT

The Transit Division is responsible for all non-Unix LANs (Windows NT and Novell) within the Transit Division and their connection to the County's WAN routers, including local wiring. In addition, the Transit Division is responsible for all desktop PCs and PC software (except e-mail and calendaring). This responsibility includes:

- Planning and defining hardware/software requirements
- Purchasing LAN hardware and software
- Installation, configuration and set-up
- Local wiring and WAN connection (to router)
- Backup/archives
- Routine administration and maintenance (disk condition and space, startup/shutdown, monitor processes and logs, etc.)
- User account maintenance
- Hardware/software maintenance, including upgrades
- Security administration
- Performance monitoring and tuning
- System and Process Enhancement
- Disaster recovery
- Troubleshooting, documentation, 2nd level helpdesk support and technical answers

This function is performed by MITT – Integration and Infrastructure group (8.5 positions), as well as by several positions in other Transit Division sections (Operations, Vehicle Maintenance, Service Development, Power & Facilities, Design & Construction). Power & Facilities also supports all SCADA equipment (for tunnel control signals and systems). In addition, many LAN administrators function as coordinators for technology related initiatives, such as year 2000 compliance and major application planning and implementation.

Transit Division LAN servers supported by MITT – Integration and Infrastructure and other Transit Division units are shown in Exhibit 5.10 (page 5-23).

Exhibit 5.10
Transit Division LAN Servers Supported by MITT

Server Name	Operating System	Location	Function
Plato	WinNT	Exchange 2nd Floor	Lotus Notes Server
Zeus	Netware	Exchange 2nd Floor	Central Transit File Server
Managewise	Netware	Exchange 2nd Floor	Netware Mgt. Server
Decon	Netware	Exchange 2nd Floor	File Server
Transit_Akiki	Netware	Exchange 2nd Floor	File Server
RubyPos	Netware	Exchange 2nd Floor	File Server
Tsunami	WinNT	Exchange 2nd Floor	File Server
Baby	Netware	Exchange 2nd Floor	File Server
Aristotle	WinNT	Exchange 2nd Floor	Notes Backup Server
Colossus	Netware	Exchange 2nd Floor	File Server
Brutus	WinNT	Exchange 6th Floor	Database Server
Popeye	Netware	Exchange 6th Floor	File Server
Wimpy	WinNT	Exchange 6th Floor	File Server
Spinach	Netware	Exchange 6th Floor	File Server
Transporter	Netware	Exchange 6th Floor	File Server
Bali	WinNT	Exchange 12th Floor	File Server
Penang	WinNT	Exchange 12th Floor	File Server
PF_Manager	Netware	Exchange 16th Floor	Power and Facilities Mgt.
North_OPS	Netware	North Base	File Server
North_FM	Netware	North Base	File Server
South_OPS	Netware	South Base	File Server
South_FM	Netware	South Base	File Server
Central_OPS	Netware	Central Base	File Server
Central_FM	Netware	Central Base	File Server
East_OPS	Netware	East Base	File Server
Power	Netware	P&F HQ	File Server
System A	VMS	Exchange 4th Floor	SCADA control host
System A	VMS	Exchange 4th Floor	SCADA front-end proc.
System B	VMS	Exchange 4th Floor	SCADA control host
System B	VMS	Exchange 4th Floor	SCADA front-end proc.
Hood	WinNT	Exchange	Web Server

TRANSIT GEOGRAPHIC INFORMATION SYSTEM (GIS) SUPPORT

MITT supports and maintains the GIS application for the Transit Division including managing Transit Division GIS data (the Transit Division has its own data layers). This task includes developing GIS related applications, coordinating GIS training for Transit Division personnel, setting-up desktop access to GIS data, and managing Transit GIS software and licenses for Transit GIS software (ARCInfo, ESRI, ARCView, MapObjects).) MITT also represents the Transit Division and Department of Transportation in resolving regional GIS issues.

This function is performed by MITT – Integration & Infrastructure group (5 positions).

TRANSIT "DISTRIBUTION DATABASE" ADMINISTRATION

MITT manages Transit Division data that is created and maintained through Transit specific applications through a centralized "distribution database". The distribution database is a data integration tool (using primarily an Oracle database) that extracts and standardizes data received from an application and translates and

passes the data to other applications. Transit Division database administrators also work with application developers to ensure optimal application performance and provide support for other databases that are not part of the distribution database, such as Timetable and Bus Schedules (TABS) and Hastus databases.

This function is performed by MITT – Integration & Infrastructure group (2 positions).

COMPARATIVE COSTS

This section compares the information technology costs for services provided by the County ITS to the cost of those provided within the Transit Division. The costs are based on 1999 budgeted figures.

ITS INFORMATION TECHNOLOGY CHARGES TO THE TRANSIT DIVISION

ITS charges the Transit Division for information technology services in four categories – Operations and Maintenance, Infrastructure, Geographic Information System, and Project Support. The following describes each of these categories and cross-references them to the responsibilities described in the first section.

Operations and Maintenance

ITS charges the Transit Division for the Division's share of the operation and maintenance cost of the data center and the applications running on data center equipment. This cost includes:

- an allocation of mainframe costs based on standard metrics produced by the mainframe operating system regarding CPU usage and other load parameters, and an allocation of costs associated with the Prime computers based on historical percentages (50% to Transit, 50% to Finance);
- an allocation of data center operations personnel costs and other data center expenses and overhead based on the percent of floor space and other factors;
- charges for the Transit Division's share of mainframe applications that also support other departments or division (IBIS financial and Payroll system). Based on an agreement at the time of re-organization, 90% of the cost of these applications is charged to the Transit Division.

This category includes the following ITS responsibilities: Data Center Operations and Management; and Multi-Division/Departmental Applications Operation and Maintenance. The 1999 budgeted cost for this category is $1,234,450.

Infrastructure

ITS charges the Transit Division for charges related to distributed systems and County-wide client-server applications and support. The specific areas covered by this category of charges includes:

- an allocation of e-mail costs based on e-mail account users.
- an allocation of WAN and Help Desk costs based on the proportion of employees in the Transit Division (FTEs) compared to the total FTEs for divisions and departments that utilize these services
- support for distributed client-server systems (e.g. Unix based LANs and servers) based on the number of servers and ITS' estimate of standard support hours per server. The estimated number of hours of support for OVMS/Unix and Prime equipment and LANs for 1999 is 7,104 hours (4 FTEs).

This category includes the following ITS responsibilities: System Administration for Unix and OVMS servers; Wide Area Network (WAN) Operations and Maintenance; King County E-Mail Administration and Management; and First Level (Tier 1) Help Desk Services. The 1999 budgeted cost for this category is $1,869,702.

Geographic Information System (GIS) services

ITS charges the Transit Division for a proportion of the cost of the GIS and related support based on the total number of GIS software licenses. A portion of the County's GIS cost is charged to Transit even though Transit pays for other GIS licenses separately and has internal employees responsible for Transit's GIS. This category includes the following ITS responsibilities: King County-Wide Geographic Information System (GIS) Operation and Maintenance.

The 1999 budgeted cost for this category is $237,495.

Project Support

ITS provides the Transit Division with personnel for projects on an "as needed" basis. The Transit Division is charged an hourly rate based on actual hours expended by ITS staff on Transit Division projects. The rate for ITS analysts in 1999 is $67.14 per hour, which reflects a fully loaded rate including overhead.

Transit Division projects are primarily funded using capital dollars. The 1999 budget has no operating dollars projected for ITS support to the Transit Division.

In summary, the total 1999 budgeted ITS charges for the Transit Division are as follows:

Operations and Maintenance	$1,234,451
Infrastructure	$1,869,702
GIS	$ 237,495
Project Support (capital only)	—
total	*$3,341,648*

TRANSIT DIVISION INFORMATION TECHNOLOGY COSTS

The Transit Division's 1999 budget for information technology costs is primarily concentrated in the Management Information and Transit Technology (MITT) section. However, a rough estimate of the allocation of 1999 budget implies the following costs associated with the Transit Division responsibilities:

Planning, development and implementation for public transit specific technology.	$1,713,583
Operation and maintenance for transit AVL applications and technology.	$ 381,273
Equipment architecture, installation and maintenance for transit specific hardware.	$ 513,750
Transit Division applications operation, maintenance and support.	$1,246,274
Local Area Network (LAN) and desktop equipment administration and support.	$ 451,576
Transit geographic information system (GIS) support.	$ 300,539
Transit "distribution database" administration.	(Included in Transit Division applications)
Section management and administrative support	$ 183,727
TOTAL	*$4,790,722*

The Research & Management Information unit within MITT has been omitted from the information technology cost estimates. This section is responsible for fare and pricing policy and analysis, National Transit Database (Section 15) reporting, ridership analysis and other evaluation and analysis tasks. This group is considered an additional user of information technology resources rather than a direct information technology cost.

In addition to MITT, other organizational units within the Transit Division have personnel with information technology related assignments, such as local desktop and LAN support. Since these responsibilities are divided among several employees in several units, the information technology costs were not isolated and included in the above.

CONCLUSIONS: INFORMATION SYSTEMS

ROLES & RESPONSIBILITIES

The division of tasks between the ITS and the Transit Division is logical, with no major misplacement of responsibilities. However, there are some issues that can be addressed to further improve efficiency and effectiveness and to enhance the ability of the ITS and Transit Division to work together. Some particular areas of opportunity include the following:

- Most County and Transit Division MITT employees understand the general assignment of responsibilities between the two organizational units. However, there is occasionally some confusion regarding specific tasks and responsibilities. There are several different written documents describing responsibilities of ITS and MITT. Although these documents do not seem to be in direct conflict, the documents vary in their degree of specificity and comprehensiveness. In addition, different documents appear to have been developed at different points in time as the relationship between ITS and MITT has evolved since the re-organization. Finally, changes in equipment have resulted in different equipment inventories.

  These "gray areas" generally result from situations in which responsibilities are divided differently for similar functions or for which there is an exception to generally assigned responsibilities. For example, ITS is generally responsible for Unix based LAN servers and the Transit Division for Windows NT servers. However, there are some exceptions (such as Transit Division support for systems requiring 24 hour/ 7 day coverage). Moreover, since the ITS WAN responsibilities stop at the router, responsibility for wiring and WAN connection for Unix based LANs need to be defined, as well as user support from the Help Desk.

- A corollary to the occasional ambiguity in responsibilities is that Transit Division employees feel that some responsibility is "creeping" back to the Transit Division from ITS, even though ITS has been assigned the responsibility. Examples sited include troubleshooting for LANs administered by the County, network problems where it is initially unclear as to the source of the problem (LAN or WAN), and which help questions should be directed to the Help Desk.

- There are some responsibilities that appear to be omitted or only partially covered by the current assignment split between the County ITS and the Transit Division. Many of these responsibilities relate to

establishing overall policy and procedures for County-wide information systems activities. Examples sited include:

- Maintaining formal comprehensive and up-to-date policies, procedures, technology preferences and standards for hardware, network architecture, security, etc.
- Defining standards for common office software and coordinating upgrades
- Monitoring network usage and performance and actively managing capacity
- Maintaining and periodically testing disaster recovery/contingency plans
- Performing ongoing technical database administration tasks.

- The administration of Geographic Information Systems (GIS) is still evolving. The current plan for departmental maintenance of core data layers and departmental responsibility for training and desktop GIS support may cause some minor ambiguity and duplication of effort.

- There are no mutually agreed upon performance indicators, measures, or goals for the services provided to the Transit Division by ITS. In addition, there are no County-wide performance standards for the Transit Division to meet in performing the information technology functions for which the Division has responsibility. Both the County and the Transit do use some performance measures, however there is no comprehensive, consistent, and agreed upon method of measuring and monitoring service quality for either group. The Transit Division has initiated some attempts to establish a formal "Service Level Agreement" between the County and the Transit Division, but to-date no agreement has been finalized and accepted.

  Consequently, performance is judged through perception and anecdotal occurrences. Some employees feel that the Help Desk is slow to respond and doesn't give consistent answers. Other examples used to illustrate performance problems include the lack of timely renewal of software and hardware maintenance contracts (and inconsistent coverage), occasional problems with user account maintenance and disk overflows, intermittent application of software patches, or bills that do not get paid on-time. Gaps in service coverage, such as the inability to provide 24 hour/7 day coverage for critical equipment and the lack of Novell support, is viewed by some as a failure by the ITS to meet an assigned responsibility.

Overall, the re-assignment of information technology functions and responsibilities between ITS and the Transit Division has been successful. With the exception of establishing mutual performance measures, the issues identified above relate to normal fine-tuning following the re-organization.

COMPARATIVE COSTS

A comparison of information technology costs between ITS and the Transit Division does not result in a meaningful cost differential.

Our findings on comparative costs are as follows:

- The current division of responsibilities between ITS and the Transit Division does not support a direct comparison of information technology costs. There is little basis for a comparison of common functions, skills, and responsibilities that would result in a meaningful cost differential. In particular:
  - The current assignments do not result in enough similar functions being performed in both areas to compare costs for like tasks. In the one area of potential overlap, ITS-GIS O&M support, costs are allocated to the Transit Division (and other County departments) based on users of core GIS data and related resources (as represented by the number of licenses) and is not related to actual functions performed for the Transit Division. The Transit Division performs its own GIS support internally.
  - The functions performed in ITS and the Transit Division require different skills and training, and therefore different associated personnel costs. Mainframe operations, Help Desk, e-mail, WAN and related functions require more general computer skills, where the Transit Division requires experience and knowledge more specific to transit technology, applications, and the public transit business. Personnel requirements, and associated costs, for similar functions can also vary widely depending on the actual technology deployed. For example, LAN administration requirements for OVMS or Unix based networks will generally be different than requirements for Windows NT based LANs.
  - The County costs include a large portion of general information technology overhead, such as planning and management, mainframe and data center operations, overhead associated with County-wide applications, etc.

- Attempts to compare Transit Division information technology costs "before" and "after" the reorganization have not been successful due to the following:
  - Significant changes in technology have taken place during and after the re-organization resulting in both different technology costs and changes in personnel and skill requirements.
  - Major applications systems have changed. The e-mail system has been replaced and IBIS (financial system) was not fully implemented until after the re-organization.
  - Transit information technology areas have re-organized internally and include some non-information technology functions (e.g. fare analysis, grant analysis, etc.) In addition, the level of information technology services provided in other Transit Division sections (such as Vehicle Maintenance, Operations, Power & Facilities, etc.) has changed.
  - Consistent performance measures relating to information technology are not available from either before or after the re-organization. Therefore, the level of service quality cannot be taken into account in making a before and after cost comparison.
  - Some Transit Division assets were "gifted" to the County during the re-organization and may not reflect accurate capital or overhead costs.
- The difference in hourly rates between the County and the Transit Division results mostly from the method of allocating overhead. Differences in labor rates form only a minor variance:
  - ITS will charge the Transit Division $67.14 per hour for assistance in 1999. This rate is the sum of the labor rate ($49.14 per hour) plus overhead ($18.00 per hour). Labor is calculated using the total salaries and benefits of all applications analysts and the section manager divided by the total billable hours available. Total billable hours excludes vacations, holidays, sick leave and training time. The overhead rate is based on direct and indirect costs, including an allocation for floor space, phones, supplies, division management (based on FTEs), administrative support, and miscellaneous central charges (prosecuting attorney, CX overhead, etc.).

  - The Transit Division's total 1999 MITT budget divided by the number of FTEs is $37.75 hour based 2,080 hours per year (excluding the Research and Management Information unit which does not perform the MIS functions covered in this report). The labor portion (salaries and benefits) of this rate is $34.74. Adjusting the labor rate for billable hours in the same fashion as ITS yields an estimated $43.01 per hour.

  - The difference in rates is due primarily to overhead allocation. The County's rate of 67.14 includes a full allocation of all direct, indirect, and other overhead totaling $18.00 per hour, The Transit Division's rate of $37.75 includes only supplies and purchase of services from external vendors totaling $3.01 per hour. The Transit labor rate, adjusted for billable hours, is $6.13 per hour less than the County's.

- The method of allocating ITS costs to the Transit Division is generally a fair representation of cost consumption, with two exceptions:

  - The GIS cost is allocated to the Transit Division based on the number of licenses (seven) though the Transit Division pays separately for GIS licenses and performs GIS support internally. As a result, the Transit Division is fairly self-sufficient and utilizes little County GIS support but may bear a disproportionate cost.

  - Infrastructure costs (e-mail and WAN) are allocated on based on the FTEs in each user division or department . This allocation method may be a misrepresentation of actual use, since the Transit Division has a significant number of employees (bus operators and mechanics) who do not directly use these services. A detailed analysis of ITS infrastructure costs and their allocation was the subject of a separate audit report, prepared by the King County Auditor (No. 98-06).

ITS and the Transit Division should jointly review these allocation methods and make adjustments as appropriate to reflect a more equitable distribution of information technology costs.

RECOMMENDATIONS: INFORMATION SYSTEMS

5.6 *King County ITS and the Transit Division should jointly develop and maintain one document that clearly delineates the functions and responsibilities between the two organizations.* The current responsibilities imply that the following general guide-

lines are appropriate for solidifying responsibilities and for assigning new tasks as they arise:

- ITS responsibilities:
  - County-wide planning, administration, and oversight for common information technology resources
  - WAN and other networks that span multiple departments and divisions
  - County-wide applications and common office systems (e-mail, word processing, spreadsheet, etc.)
  - Equipment/applications where can the County can gain economy of scale by combining the needs of multiple departments and divisions (e.g. the mainframe data center operations, payroll system, etc.)
  - Equipment/applications for which it is not efficient or cost-effective for individual departments and divisions to maintain the required expertise or where County-wide consistency and standards should be applied
  - County-wide training, support and help desk functions
  - Purchase/maintenance agreements where the County can benefit from establishing County purchase agreements, volume discounts, and other benefits (e.g. Oracle licenses, standard PC equipment contracts, standard office software) — this is already standard practice.
- Transit Division responsibilities:
  - Applications specific to the Transit Division
  - Transit technology and specific hardware, equipment, and networks (such as Automated Passenger Counting Systems, Fare Collection Systems, On-Board Computers, AVL equipment, etc.)
  - Applications that are considered critical for transit service or public and employee safety/security

The challenge facing the County and Transit Division is to bridge the gap between generic services from the County and specialized services from the Transit Division to ensure that all functions and responsibilities are covered in the most effective manner.

5.7 *The County should expand its role in some generic functions currently performed by the Transit Division.* The County may be able to gain economies of scale and ensure consistency of quality and service in performing the following:

- Administration, operation and maintenance of all common LANs, including Windows NT and Novell based LANs located in the Transit Division. The County can utilize its expertise in LAN administration across departments and divisions and can ensure a uniform application of standards, expertise, service, and LAN configuration. In addition, the County would ensure effective connections between LANs and the County WAN, and would represent a central responsibility for network architecture, operation, troubleshooting and performance. Finally, the County may realize benefits from applying the same network management and monitoring software and procedures across several County LANs. Standard LAN and office software can be centrally dispatched and upgraded. The Transit Division would retain responsibility for specialized LANs and public transit industry equipment, such as the AVL LAN for operations and the "on-board" LAN for vehicles.

- Purchase, set-up and maintenance of generic desktop equipment. The County may be able to gain economies of scale in the administration and execution of purchase agreements with desktop PC hardware and software vendors. The County could also realize the same benefits for desktop PC installation and configuration as identified above for LAN administration.

- Technical database administration (DBA) for large databases. The County may more easily provide the technical expertise required to monitor and administer large databases, particularly those using Oracle DBMS and requiring separate storage arrays, fault tolerance, hot cut-over capabilities, and other specialized database management functions. The Transit Division would retain functional database responsibilities requiring specific knowledge of Transit applications and data.

- GIS functions that span multiple departments and divisions. In addition to maintaining central GIS hardware and applications, the County can centrally maintain core GIS data layers that will be used by multiple departments and divisions. In addition, the County can establish and provide basic GIS training and user support for desktop

access to the County GIS application, including 24 hour coverage where appropriate. Individual departments, including the Transit Division, can retain responsibility for division specific applications and data layers.

Most of these functions are currently handled within the Transit Division. Due to their importance to transit operations, the Transit Division exercises direct control over performance. *If these functions are transferred to the County, it is essential that ITS maintain the same or higher customer service, response time and performance as currently provided within the Transit Division.* In addition, ITS must assign the appropriate priority in providing services based on the needs of the Transit Division's operation and business, including 24 hour/7 day support where required.

5.8 *ITS should take a more comprehensive and active role in establishing and monitoring County-wide information technology policies and procedures.* In particular, ITS should take the lead in:

- Establishing and specifying County-wide standards, technology preferences, and guidelines for common hardware, networking architecture (topology, protocols, etc.), database and open systems architecture. (The Transit Division would remain responsible for industry standards, such as Intelligent Transportation Systems, and Transit Communications Interface Profiles.)
- Specifying preferred or "approved" lists of common office software (such as word processing, spreadsheet, presentation packages, etc.) and coordinating the upgrade schedules to ensure that County employees can exchange files and data effectively.
- Establishing and enforcing County-wide security standards for network and application access.
- Developing, testing and maintaining a comprehensive, County-wide contingency and disaster recovery plan to cover all critical information systems resources, regardless of location or administrative responsibility.
- Coordinating the development of strategic information technology plans, resource requirements, and future direction for individual divisions, including the Transit Division, and ensuring that the future direction is consistent with County-wide plans.

Much of this work, in particular the disaster/contingency planning and strategic planning, requires a joint effort between ITS and the Transit Division. In many cases, ITS will assume a support and oversight role and will be involved in reviewing decisions regarding exceptions to established policy.

5.9 *ITS and the Transit Division should establish mutually agreed upon quality and performance measures and goals for all functions provided by ITS for the Transit Division.* These measures and goals should be based on the business needs of the Transit Division and the resources available from the County. This agreement should be documented and monitored, and performance should be jointly reviewed and regularly communicated.

MITT FUNCTIONS

The purpose of this task was to identify any efficiencies that could result from introducing technology improvements into Transit Division operations and to review the Division's decision making process for initiating technology improvements.

CURRENT TRANSIT DIVISION TECHNOLOGY INITIATIVES

The Transit Division is currently involved in several technology initiatives targeted toward improving operating efficiency and service quality. These initiatives involve a combination of internal Transit Division projects, joint projects with other regional agencies and participation in County ITS projects for systems that affect the Transit Division.

In particular, the following major initiatives are either planned or on-going:

- "SmartCard" automated fare collection technology and regional fare technology
- Year 2000 compliance
- Automated Passenger Counting (APC) program (on-going enhancements)
- Vehicle maintenance system replacement
- Automated Vehicle Location (AVL) system (on-going enhancements)

- Transit Geographic Information System (GIS) (on-going enhancements)
- Financial Systems replacement – SAP implementation (County Department of Finance project)
- Payroll System replacement – PeopleSoft implementation (County ITS project)
- Base Operations Support System (BOSS) replacement

The Management Information & Transit Technology (MITT) section of the Transit Division evaluates and manages Transit Division projects and represents the Transit Division in County and regional projects. MITT also includes a Research and Management Information unit that is responsible for monitoring service information, ridership and service quality.

FINDINGS

The existing projects coupled with the Transit Division's current portfolio of application systems represents a fairly comprehensive utilization of available transit industry technology. However, the Transit Division can benefit from an increased effort in two areas: strategic information systems planning and participation in County ITS technology initiatives.

- Strategic Information Systems Planning — The Transit Division has at various times initiated the development of a strategic information systems plan. However, this plan has not been completed and does not provide a comprehensive plan for all information technology related areas. This planning effort is particularly important given the continued advancements in transit and related technology, the division of responsibilities between the County and the Transit Division, and the efforts of the County ITS in implementing new application systems.
- Participation in County ITS technology initiatives — ITS is responsible for implementing application systems that can be utilized by multiple County departments and divisions. Two major projects – the implementation of a new financial system (SAP) and payroll system (PeopleSoft) have significant implications for the Transit Division.

RECOMMENDATIONS: TRANSIT TECHNOLOGY

5.10 *The Transit Division, with the cooperation of ITS, should develop a comprehensive strategic information systems plan that outlines detailed goals and direction for information technology.* Specifically, the plan should cover the next three to five years and address the following areas:

- The effect of the Transit Division's business direction, objectives, and issues on technology requirements and resources.

- The specific information that will be required to support each major Transit Division business function (planning, scheduling, operations, maintenance, customer support, etc.) in the form of a high level "data architecture".

- The specific applications that will provide the information. This "applications architecture" should include a mixture of current and future applications, the role of each application, how the applications fit together, and the information requirements each provides. The applications architecture should provide a resolution of potential data and function conflicts between systems.. For example, a future vision of a transit bus can include several on-board systems that gather or utilize overlapping and sometimes conflicting or redundant data. On-time performance and ridership data can come from several sources: automated farebox, passenger counter, mobile data terminal, AVL/GPS, etc. Route data can be used by several systems on the bus (farebox, APC, AVL, automated destination signs, automated annunciation system). Furthermore, the architecture should address how the Transit Division will utilize County implemented applications. For example, the Transit Division may have the option to use the inventory module of the County's new SAP system for maintenance parts or to include an integrated materials management module with the new vehicle maintenance system.

  The application architecture should also define the interfaces between systems. It should include a strategy for implementing the interfaces, such as purchasing integrated families of application modules, utilization of open systems technology, and expansion of the Division's current "distribution database" concept.

- The specific technology architecture required to support the applications and data architectures. This includes identifying how new or enhanced technology will be deployed by the Transit Division. Examples of potential new technology or expanded use of existing technology includes bar code, digital imaging, electronic data inter-

change (EDI), customer information kiosks, intelligent bus stops, traffic signal preemption, on-board computers (both revenue and non-revenue vehicles), etc. The technology architecture also includes identifying the high-level technology standards and preferences for the Transit Division and ensuring the implementation of compatible and efficient technologies.

- The specific management and support resources required by the data, application and technology architectures. This includes defining how the future direction of the Transit Division effects the split in responsibilities between the ITS and the Transit Division. It also includes defining the most effective future organizational structure, skills, staffing levels, and support requirements for Transit Division information technology resources.

- The specific projects required over the next 3 – 5 years to migrate the Transit Division from its current status to the vision defined by the plan. This includes identifying project prerequisites, timeline, priorities, resources, budget and funding requirements.

If practical, the Transit Division and ITS should commit to accepting and funding the entire plan, pending annual reviews and adjustments.

5.11 *The Transit Division must participate heavily in the implementation of the new financial and payroll systems to maximize the benefits of the new systems and to ensure that the Division's needs are met.* In particular:

- Public transit systems generally have a direct effect on operations and service quality. This is even true for traditional support systems, such as finance and payroll. Union work rules, extra-board operations, safety and training, discipline history and other personnel policies provide special challenges for a human resources and payroll system that supports public transit. Financial modules involving maintenance parts purchasing, materials and fuel inventory, accounts payable, fixed assets and grants management also have significant transit related requirements. Both the new financial system (SAP) and payroll system (PeopleSoft) have extensive flexibility and multiple options as to how the software is configured and implemented. The Transit Division should be heavily involved in defining the requirements for effective support of Transit Division functions, and in the design, configuration, and set-up of SAP and PeopleSoft modules to meet these requirements.

- Both SAP and PeopleSoft contain expanded capabilities in relation the systems being replaced. The Transit Division should review the capabilities of each of these systems and make an informed decision on how best to utilize the new capabilities.
- The implementation of major application systems provides an opportunity for the Transit Division to review its current operations, policies and procedures, union negotiating stance, and other functions relating to the new systems. The Transit Division should examine the opportunity to "re-engineer" the policies and procedures affected by the new systems to improve efficiency and effectiveness.

Financial Policies, Plans, & Controls

This part of the audit encompassed a variety of issues relating to multi-year planning and financial control. Although financial policy and planning were dominant considerations, our review also included issues that are not strictly financial, such as strategic planning, development of the six-year transit development plan, capital program management, and performance monitoring.

We used a strategic planning framework as a conceptual basis for organizing this diverse but integrated set of policy issues. This framework has four elements:

- strategies, which are means to afford maximum support to adopted policies affecting the future delivery of service;
- tactics, which are means to allocate or maneuver resources to accomplish the ends suggested by strategies;
- controls, which are means to check, test, or verify that tactics are being carried out; and
- appraisal, which is a means to evaluate the worth, significance, or status of a strategy, in light of actual performance.

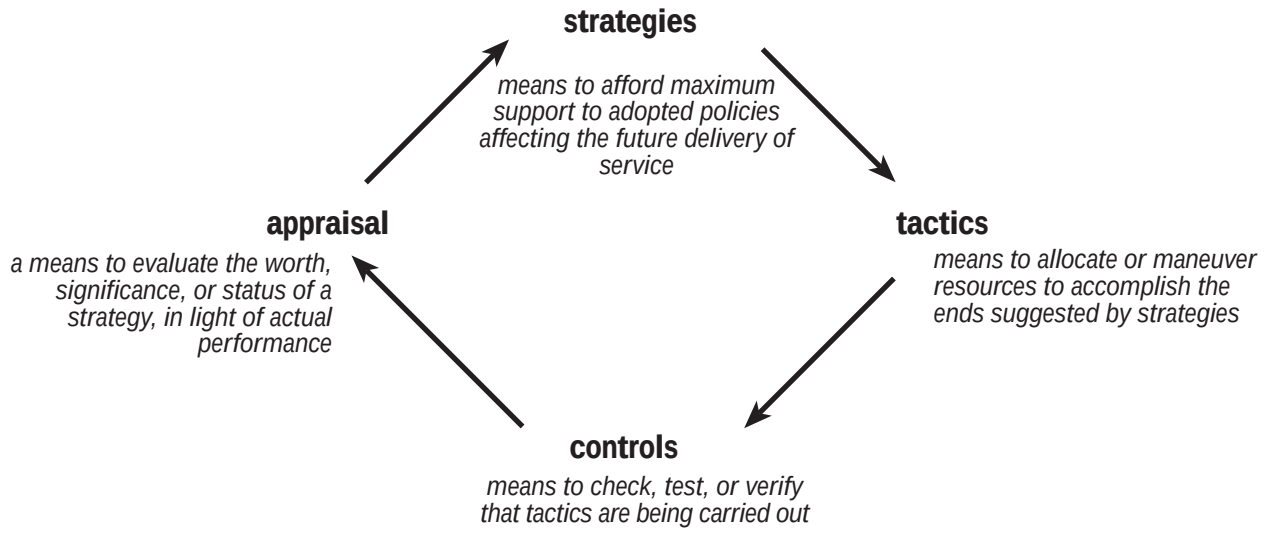
Together, these elements define a process that enables continuous refinement of a product — in this case, transit service. Continuous product refinement is possible when: (i) all strategic planning elements are present and are practiced by management; (ii) the elements are integrated and internally consistent; and (iii) the elements are effective, collectively and individually, in satisfying the conditions noted above. These are the basic criteria we used to evaluate the Transit Division's multi-year planning and financial controls.

The relationship between this strategic framework and the nine subtasks of the financial planning and policy review is presented in Exhibit 6.1 (page 6-2). Our findings with respect to each of the strategic planning elements are summarized below.

STRATEGIES

Strategies adopted with the Six-Year Transit Development Plan (SYP) in 1995 provided a good foundation for guiding the development of tactics in the annual budget process, and were particularly valuable given the service expansion that has

Exhibit 6.1:
Strategic Planning Framework for Assessing Transit Division's Financial Policies, Plans, and Controls



section title (page number)	Strategies	Tactics	Controls	Appraisal
Financial Policies (p. 6-4)		✔		
Financial Plan Assumptions (p. 6-13)		✔		
Resource Allocation (p. 6-22)		✔	✔	
Investment Policies (p. 6-28)		✔	✔	
Capital Improvement Program (p. 6-31)	✔	✔	✔	✔
Finance & Budgeting (p. 6-44)		✔	✔	
Internal Controls & Performance Monitoring (p. 6-55)		✔	✔	✔
Six-Year Planning Process (p. 6-65)	✔			✔
Strategic Planning (p. 6-73)	✔			✔

been implemented in the last three years. The plan has not been updated as intended, however, and the strategies are now out of date. Some elements of the plan — notably capital programs, a management plan, and benchmarks for evaluating success — need to be more specific to provide more effective control.

Responsibility for updating the SYP was transferred from the Transit Division to the Transportation Planning Division. We believe the SYP should be prepared by the Transit Division. The SYP needs to function as a business plan, and accordingly it should be developed by the managers who will be accountable for the plan's implementation. A more appropriate role for the Transportation Planning Division would be to update the policy basis for the SYP, which is articulated in the *Comprehensive Plan for Public Transportation*. The current comprehensive plan was adopted by the Metro Council in 1993. It is based on assumptions that may no longer be appropriate, it does not have the multimodal emphasis that the Executive desires to achieve, and it may not reflect the vision or priorities of the King County Council. The method proposed by the Transportation Planning Division to update the SYP could be more effectively applied to a comprehensive plan update.

TACTICS AND CONTROLS

The Transit Division tends to be strongest in developing tactics and applying controls for bus services. This reflects the focus of the management team on the annual budget process, and the relatively high priority given to bus services, which dominate the Transit Division's operations.

Consequently, bus operations tend to achieve positive system-wide performance. Comparatively less attention is given to subsets of bus services (e.g., subareas, types of service), other modes (e.g., paratransit), and the capital program. Of these, the capital program is currently of greatest concern. It is well behind schedule, and forecasts of annual capital expenditures have been substantially overstated. This indicates that the capital program is not well-controlled, and greatly reduces the accuracy of the six-year financial plan. Systems improvements are critical to improving the ability to control the capital program.

APPRAISAL

The current appraisal process focuses on the annual operating budget. Appraisal of longer-range strategies is practically absent — no feedback mechanisms have been implemented, for example, to gauge the effectiveness of the six-year plan. The effectiveness of capital investments is not evaluated. The lack of information on bus system markets (e.g., subsidies by subarea and type of service) makes it difficult to determine if resource allocation occurred as planned. Improving feedback systems, and establishing an appraisal process, should be a high priority of the Transit Division.

The remainder of this chapter presents the findings, conclusions, and recommendations from each of the tasks evaluated as part of the financial planning and policy review. These are presented in the order of the task titles noted in Exhibit 6.1 (page 6-2).

FINANCIAL POLICIES

The objective of this part of the audit was to evaluate the effect of applying the Transit Division's financial policies to the budget and financial plan development process. The narrative which follows presents: (i) background information on the current financial policies; (ii) a description of the flow of funds among the subfunds of the Public Transportation Fund; (iii) an assessment of the effect of the financial policies on the budgeting and financial plan development process; and (iv) a description of the integration of financial planning and budgeting with the six-year planning process.

The financial policies are fairly comprehensive and appear to be rigorously followed in developing the financial plan and budget. The policies encourage a fairly conservative financial plan by protecting against downside risks and by specifying priorities for most uses of discretionary cash. There are, however, two topics on which the financial policies are silent — linking the selection of capital projects to the adopted six-year plan, and setting priorities for capital grant funding. Recommendations for amending the financial policies to address these topics are included at the close of this chapter.

BACKGROUND

The Transit Division manages the Public Transportation Fund (PTF), an enterprise fund with purposes restricted to public transportation uses. Policies for the management of this fund are proposed by the Division, heard by the Regional Transit Committee, and adopted by the County Council. The 1998 Transit Program Financial Policies, as presented in the 1999 Budget, consist of five parts: (i) fund structure and reserves; (ii) resource allocation; (iii) capital funding and debt; (iv) fares and costs; and (v) financial policies development. The policies are summarized in Exhibit 6.2 (page 6-5) according to their effect on different elements of the financial plan and budget.

The basic features of the financial policies are as follows:

- Fund structure and reserve policies establish sub-funds of the PTF (i.e., transit operating, revenue fleet replacement, and transit capital), provide guidelines for reserves, and describe prudent budget standards. The general intent of these policies is to protect against operating fund shortfalls, and to establish the priority of revenue fleet replacement over other capital projects.

Exhibit 6.2:
Summary of Transit Program Financial Policies

Financial Plan / Budget Element	FINANCIAL POLICIES			
	I. Fund Structure & Reserves	**II. Resource Allocation**	**III. Capital Funding and Debt**	**IV. Fares & Costs**
Fund Structure	I.A: PTF consists of three subfunds (TOF, TCF, RFRF)			
TOF Reserves & Revenues	I.B: Transit Fare Stabilization & Operating Enhancement Reserve, funded from net annual operating revenues, expenses subject to appropriation	II.A: Three-fourths of sales tax revenue to fund operations		IV.A: Maintain a target of recovering 25% of operating expenses from operations revenues (bus services).
	I.C: Thirty-day cash operating reserve 1/12th of annual budget)			IV.B: Fares will be reviewed every two years; for financial planning purposes assume fares change with inflation.
	I.D: Revenues from all sources will exceed budget expenses by >1% for each year in the plan			
TOF Expenditures & Transfers		II.B: All new service subsidy resources to be allocated 36% west, 28% east, 36% south.		IV.C: Hourly costs of current service should grow at or below inflation.
		II.C: Schedule maintenance hours to be budgeted at 0.5% of annual service hours; no subarea split required		IV.D: Any services performed for other public or private organizations will be reimbursed at full cost (with certain exceptions).
		II.D: Allocation of general government overhead expense to be based on 5/23/94 cost allocation study		
RFRF Reserves & Revenues	I.A: RFRF will have a balance sufficient to fund replacement of the revenue vehicle fleet	II.A: RFRF contributions have second call on 1/4th of sales tax revenues		
RFRF Expenditures & Transfers				
TCF Reserves & Funding	ID. Excess operating funds may be transferred to the TCF, subject to appropriation	II.A: Debt service has first priority for 1/4th of sales tax revenues	III.A: Must maintain a debt service coverage ratio of at least 1.5 on 0.2% sales tax revenues; for planning purposes maintain a 2.0 coverage.	
		II.A: Capital projects have last call on 1/4th of sales tax revenues	III.B: Provide for replacement capital and reliable long-term revenues to fund additional service & related capital investments	
			III.B: Debt will be used on a limited basis, primarily for short-term needs. Debt may be used for long-lived projects (>25 yrs) if sufficient revenue to service the debt.	
TCF Expenditures & Transfers			III.B: Capital replacement requirements will be included in financial plan, primarily through the RFRF.	

- Resource allocation policies describe the allocation of sales tax revenues among operating and capital uses, specify the allocation of new operating subsidies among subareas, create a percentage set-aside for scheduled maintenance hours (e.g., hours added to the schedule for travel time delays), and adopt a methodology for the allocation of County general government overhead charges to the PTF. The intent of these policies is to define the amount of funds available for major activities. The indirect effect of these policies is to distinguish the funds available for the on-going operations versus funds for new service and capital projects.

- Capital funding and debt policies establish the debt service coverage ratio for financial planning purposes, require the consideration of capital replacement needs in the financial plan, and define conditions for the use of long-term debt. Collectively, these provide guidance for the use of long-term debt and define the amount of revenue available to finance new capital projects.

- Fares and cost policies describe the percent of operating costs to be recovered from fares, the frequency of reviewing the need for fare changes, limitations on operating cost growth, and the recovery of costs for special services. Collectively, these policies provide guidance for estimating future operating revenues and operating expenses, and indirectly affect the overall financial strategy.

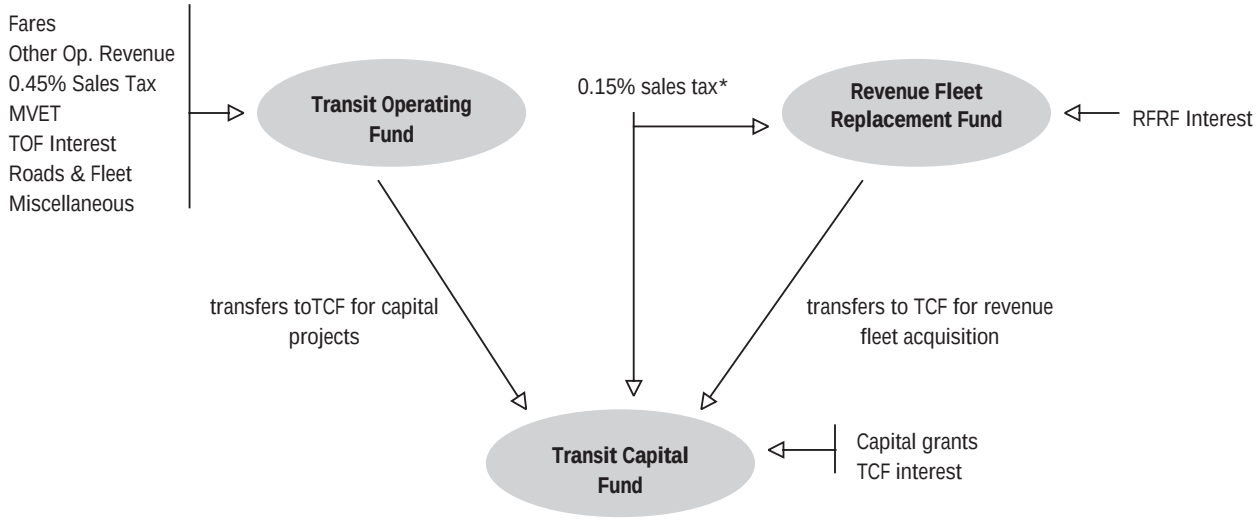
- Financial policies development establishes a process involving the Executive, Regional Transit Committee, and the Council for the review of mission and goal statements and financial policies prior to their incorporation in the annual budget.

These financial policies are fairly comprehensive. They specify a structure for the subfunds of the PTF, describe how revenues should flow to each subfund, establish a process for transferring revenues among the subfunds, establish priorities for the use of unprogrammed cash, and provide controls over operating costs and recovery of costs from fares. Two areas that figure prominently in the financial picture — capital projects and capital grants — are practically absent from the policies, however. As noted later in this chapter, additional policy direction in these areas may be beneficial.

FLOW OF FUNDS

The financial policies described above provide guidance for the flow of funds among the three subfunds of the PTF — the transit operating fund (TOF), revenue fleet replacement fund (RFRF), and transit capital fund (TCF). The flow of annual

Exhibit 6.3:
Revenue Flows Among Subfunds of the Public Transportation Fund



*priorities are: (1) debt service; (2) RFRF contribution; (3) capital projects

revenues among these funds is shown in Exhibit 6.3 (page 6-7). All sources and uses of the PTF and its subfunds are shown in Exhibit 6.4 (page 6-8), for the period 1998–2004. This period corresponds to the adopted capital improvement program.

The structure of the subfunds has three principal features. First, revenues are segregated by subfund. Second, interest earnings accumulate within each subfund, based investment of a subfund's cash balance. Third, cash transfers are made among the funds for specific purposes — surplus operating funds may be made available (by appropriation) to the TCF; funds are also transferred by appropriation from the RFRF to the TCF to pay the local (i.e., non-Federal) share of fleet purchases.

Sales tax revenue is the only revenue source that is not wholly allocated to a single subfund. The County collects a 0.6% sales and use tax for transit purposes. A portion of this tax has been pledged to pay debt service on long-term bonds, which were first issued to pay the local share of the Downtown Transit Tunnel construction costs. Today, 0.45% of the 0.6% tax rate, or 75% of revenues, is allocated to the TOF, with the balance available to the TCF and the RFRF. Per existing bond covenants, debt service remains the first priority for sales tax revenues available to these subfunds, and is paid from the TCF. The next priority is the annual contribution to the RFRF. This contribution is calculated such that payments made into the fund, plus interest earnings, will equal in a future year the local share of replacing a particular revenue vehicle fleet (see the section titled *Financial Plan Assumptions* for a more in-depth analysis of the RFRF assumptions). Since fleet costs are accounted

Exhibit 6.4:
Sources & Uses of Funds for the PTF and Subfunds, 1998–2004
millions of nominal dollars

	Operating	RFRF	Capital	PTF TOTAL
SOURCES				
Beginning Reserves				
Operating	22.7	–	–	22.7
Rate Stabilization	6.9	–	–	6.9
Revenue Fleet Replacement	–	0.4	–	0.4
Capital Fund	–	–	75.6	75.6
total reserves	**29.6**	**0.4**	**75.6**	**105.6**
Revenues				
Fares	477.3	–	–	477.3
Other Operating Revenue	111.2	–	–	111.2
Sales Tax	1,226.4	187.3	221.6	1,635.3
MVET	738.3	–	–	738.3
Interest Income	12.2	17.7	5.7	35.6
Capital Grants	–	–	295.6	295.6
Roads & Fleet	25.7	–	–	25.7
Miscellaneous	50.2	0.8	–	51.0
total revenue	**2,641.3**	**205.8**	**522.9**	**3,370.0**
Debt & Other				
LongTerm Debt	–	–	139.0	139.0
ShortTerm Debt	–	–	27.5	27.5
Balance Sheet Transactions	–	–	84.4	84.4
total debt & other	**–**	**–**	**250.9**	**250.9**
Transfers				
Operating to RFRF	–	–	–	–
Operating to Capital	(67.5)		67.5	–
RFRF to Capital		(140.3)	140.3	–
total transfers	**(67.5)**	**(140.3)**	**207.8**	**–**
total sources	**2.603.4**	**65.9**	**1.057.2**	**3.726.5**
USES				
Expenses				
Operating Expense	2,561.1	–	–	2,561.1
Capital Projects	–	–	849.8	849.8
Debt Service	–	–	160.2	160.2
total expense	**2,561.1**	**–**	**1,010.0**	**3,571.1**
Ending Reserves				
Operating	34.0	–	–	34.0
Rate Stabilization	8.3	–	–	8.3
Revenue Fleet Replacement	–	65.9	–	65.9
Capital Fund	–	–	47.2	47.2
total ending reserves	**42.3**	**65.9**	**47.2**	**155.4**
total uses	**2,603.4**	**65.9**	**1,057.2**	**3,726.5**

source: Transit Division 1999 proposed budget, six-year financial plan

for in the TCF, funds are transferred from the RFRF to the TCF when new vehicles are purchased. Sales tax revenues in excess of debt service and the RFRF contribution flow to the TCF.

All other revenue sources align directly with each of the subfunds. Most revenue sources and dollars flow first to the TOF, which receives close to 80% of annual revenues. Capital grant funds are deposited in the TCF, since all capital expenditures, including fleet replacement, are recorded against that fund.

There are two types of transfers among the subfunds. A transfer from the TOF to the TCF is made by Council appropriation, provided that excess revenues (i.e., operating revenues in excess of all operating obligations) exist, and that the fund reserve requirement is met. This condition occurs when actual operating revenues exceed actual operating expenses and reserve requirements by at least 1%. The six-year financial plan treats projected operating surpluses in the same manner. In the current plan, these transfers are projected to total about $67.5 million, which is about 12% of the projected local cost of capital projects.

The transfer from the RFRF to the TCF is fairly simple — it is the local share of the annual expenditure for revenue fleet replacement. This fund transfer requires Council appropriation.

These allocations of annual revenue provide high-level control over the expenditure priorities articulated in the financial policies — that is, operations first, then fleet replacement, and finally other capital projects.

EFFECT OF THE POLICIES ON BUDGET AND FINANCIAL PLAN DEVELOPMENT

The financial policies appear to be strictly adhered to in assessing the PTF long-term financial capacity and in developing the annual budget.

The policies described above are used in the financial model to determine if the six-year financial plan is feasible. This is an iterative process that considers different phasing options for operations and for capital projects. The annual budget is developed within this longer-range context, and considers: (i) the proposed status quo budget, which is the cost of carrying forward existing service levels and staffing, including cost inflation estimates provided by the Office of Budget; (ii) service packages, which detail the amount of new service hours to be implemented; (iii) decision packages for other new programs or changes to existing programs; and (iv) changes to the capital program.

One way to gauge the effectiveness of the financial policies in producing an intended outcome is to analyze planned versus actual performance. Budget variances for the operating program and the capital program are presented Exhibit 6.5 (page 6-10) for 1996–1998. Operating budget variances have been fairly small, which is remarkable given the rather large (11%) increase in service during this period.

Exhibit 6.5:
Budget Variances, 1996–1998

	1996		1997		1998	
	Budget	% variance	Budget	% variance	Budget	% variance
Operating Expense	$ 253.1	0.8%	$ 284.6	3.2%	$ 307.5	2.3%
Fleet Replacement	35.7	-3.0%	73.3	8.0%	57.3	82.0%
Other Capital	68.5	53.0%	90.3	53.0%	78.5	50.0%

Dollars are in millions. Positive variances indicate under-spending; negative variances over-spending.
Operating variances obtained from 4th Quarter budget reports.
Capital variances calculated from adopted CIP and 12/31 expenditure summaries.
See "Capital Improvement Program" section for factors contributing to capital program variances.

Although this result cannot be attributed to policy alone, it does indicate that the operating budget is fairly well-controlled. The capital budget is another matter. It has been consistently underspent, and by a considerable margin. This topic is investigated in more detail in the section titled *Capital Improvement Progam.*

INTEGRATION OF FINANCIAL PLANNING AND BUDGETING WITH THE SIX-YEAR PLAN PROCESS

When the six-year plan (SYP) was originally formulated in 1995, it was closely integrated with the financial planning and budgeting process. Since that time, practically all the new service in the SYP has been implemented, and the annual service packages have been closely integrated with the financial plan update and budget. Because the SYP has not been formally updated since 1995, the financial plan we reviewed assumed that future service additions will be minimal (e.g., schedule maintenance, service expanded park & ride lots). It is likely, however, that significant changes may occur in the near future in conjunction with Sound Transit's construction and service implementation program. A review of the SYP, and its update, is presented in the section titled *Six-Year Planning Process.*

The development of the financial plan and budget is integrated with the service plan in several ways. First, long-range financial capacity is used to govern the amount of new service or capital programs that can be afforded within the six-year period. The scale and phasing of these two programs are modified in the planning process until a feasible outcome is reached. Development of the fleet plan is an integral part of this process; projected costs are incorporated in the financial plan. Second, the annualized effect of service implemented in the prior year, but effective for only a portion of the year, is taken into account in the Division's proposed status quo (PSQ) budget. Third, service packages for an upcoming budget year are the major driver of the annual operating budget. The service packages describe the details of service to be added or changed at each of three dates during the year (February, June, September). These are reviewed with the Transportation Committee before being incorporated into an add package for the upcoming budget year.

Integration of the SYP and the financial plan will become increasingly important as Sound Transit's programs are implemented. In addition to the financial and revenue impacts of changes to the service network, the competitive environment for capital grant funding will change. King County Metro and ST will in some cases need to cooperate on grant applications, and in some cases may compete against one another. Linkage of the SYP capital program to the adopted CIP, and establishment of policy direction for the pursuit of grants, would assist the Division in applying its resources effectively in acquiring and managing grant funds.

CONCLUSIONS: FINANCIAL POLICIES

- The financial policies appear to encourage a fairly conservative financial plan and budget, as they protect against downside risks and specify priorities for most uses of discretionary cash. The policies also appear to protect the PTF from paying for non-transit activities — the allocation of general county overhead cost is linked to a specific methodology, and changes to financial policy must be considered by the Regional Transit Committee.

- The only significant shortcoming of the financial policies is their comparative silence on the capital program versus the operating program. Not surprisingly, the TOF appears to be more closely controlled than the TCF.

- The capital program would benefit from explicit Council policy in two areas: (i) linking the CIP to the adopted six-year plan, allowing for certain exceptions that are necessary to accommodate year-to-year

changes in capital needs and opportunities; and (ii) priorities for capital grant funds. A closer linkage between the six-year plan and the CIP would institutionalize the six-year plan process as the voice of the Division's mission, and would limit the consideration of appropriations for projects that are not referenced in the plan. The setting of priorities for grant funds could, potentially, reduce the risk of fund availability, improve the effectiveness of staff time associated with pursuing and administering grant funds, and improve coordination with other transit agencies in the region with respect to pursuit of competitively-awarded grant funds.

RECOMMENDATIONS: FINANCIAL POLICIES

6.1 *The County should adopt a financial policy for the PTF that explicitly links the capital program in the six-year plan to the capital project appropriations process.* The intent of this policy is to limit the funding of projects that have not previously been considered in the development of the six-year plan. Recognizing that some needs may arise that were not contemplated as part of the six-year plan, the policy could place a percentage limit for off-plan projects (e.g., no more that 5% of the annual appropriation may be made available to capital projects not referenced in the six-year plan). This would focus the application of capital funds to an integrated set of projects needed to implement the service strategies contemplated in the six-year plan. Other recommendations affecting the capital plan are presented on page 6-43.

6.2 *The Council should adopt a policy for the PTF that articulates a strategy for the acquisition of capital grant funds.* The policy should establish: (i) priorities for the types of projects to seek grant funding; (ii) priorities for the types of funds to pursue for a particular type of project (e.g., use of predictable sources for predictable needs), including "partnered" projects (i.e., projects to which funds are provided by several parties); and (iii) thresholds for the pursuit of capital grant funds for individual projects.

FINANCIAL PLAN ASSUMPTIONS

This part of the audit presents some background on the financial plan, describes the principal features of the financial plan submitted with the FY99 budget, describes and evaluates the assumptions on which the plan was based, and assesses the consistency of these assumptions with County policy.

The financial plan assumptions, on a case by case basis, can be described as either reasonable or consistent with County policy. In some important aspects, however, policy is either uncertain (e.g., six-year plan update) or is inconsistent with trends noted elsewhere in this chapter (e.g., capacity to implement the capital program is less than planned activity). We believe that additional resources could be allocated to new service, principally due to reductions in debt service costs that are explained later in this section. Our conclusions and recommendations follow the technical findings.

BACKGROUND

The financial plan for the Public Transportation Fund (PTF) is a six-year forecast of annual revenues, grant funds, borrowing needs, operating expenses, debt service, and capital project expenditures. It is presented as a cash flow statement, including fund balances, for the PTF as a whole and for its subfunds.

The financial plan submitted with the 1999 budget proposal is presented in the appendix to this chapter. This presentation of the plan contains some changes in format to the original, but is otherwise identical. It includes a forecast for the PTF as a whole and for each of its subfunds.

The financial plan is a component of the annual budget. Three distinct financial plans are prepared during the budget process. In July, the Transit Division submits a financial plan to the Executive for review. The plan may be revised and is updated for submission to the Council as part of the Executive's Proposed Budget. This plan may be subsequently revised depending on changes to the Executive's Proposed budget. The financial plan for the current year is updated quarterly as part of the budget status report provided to the Office of Budget.

Values for the first year of the forecast reflect the budget for the upcoming budget year. The operating budget includes the proposed status quo (or PSQ) budget and decision packages that propose adds, deletions, or other changes to the PSQ. Assumptions for the development of the PSQ, such as compensation, benefits, and other expenses that are experienced by the County as a whole, are provided by the Office of Budget. Program- or project-specific assumptions are developed by the Transit Division for each of the decision packages.

The forecast for the remaining five years is affected by the structure of the PTF, and by forecast assumptions that are developed either by the Transit Division or by the County. The structure of the PTF is governed by the financial policies that are

described in the previous section of this chapter. Our review focused on the source, reasonableness, and materiality of the financial plan assumptions.

PRINCIPAL FEATURES OF THE CURRENT FINANCIAL PLAN

In order to evaluate the financial plan assumptions, it is necessary to understand the outcome of the financial plan, and the allocation of resources among the subfunds of the PTF.

As noted in this chapter, the PTF financial policies establish three subfunds, with revenues being segregated by subfund. Cash transfers are made from the Transit Operating Fund (TOF) to the Transit Capital Fund (TCF), when sufficient net operating revenues (also known as the "balance on operations") are available. Also, transfers are made from the Revenue Fleet Replacement Fund (RFRF) to the TCF to fund the local share of fleet acquisition costs. Sales tax revenue is the only source of funds that is split among these three subfunds. Seventy-five percent of sales tax revenues are dedicated to the TOF; the remaining 25% is allocated to the TCF and the RFRF. Per existing bond covenants, debt service is the first priority for the sales tax revenues allocated to the TCF and RFRF. Additional funds may be borrowed by the TCF on a short-term or long-term basis (under certain conditions) to satisfy cash requirements.

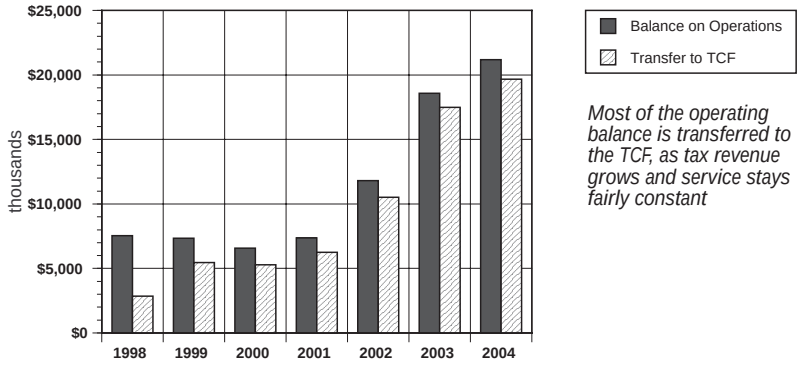
The current financial plan for the PTF relies on net operating revenues and long-term bonds to finance the capital program. As noted in Exhibit 6.6 (page 6-15), net operating revenues grow through 2004, and most of these are transferred to the TCF. The RFRF also grows, and contributes a portion of its balance to the TCF for fleet purchases. Nonetheless, the TCF realizes a negative cash flow before financing in 1999, 2000, and 2002. That is, annual revenues plus the beginning TCF balance (1998) are insufficient in those years to fund capital project expenditures. Long-term bonds are anticipated to be issued in each of these years, as well as 2001, 2003, and 2004, to finance park & ride lot improvements and base expansion. The additional borrowing is reflected in additional debt service costs — growing to approximately $29 million in 2004 from $13 million in 1998. Total borrowing — about $167 million — exceeds the sum of the negative cash flows ($106 million). The borrowings include $27.5 million in short-term debt and $139 million in long-term debt. The long-term debt is about equal to the appropriated amounts for the passenger facilities and operating facilities programs.

FINANCIAL PLAN ASSUMPTIONS

The cash flow model that produces the financial plan is the basis for the Division's assessment of financial capacity. Although the financial policies dictate a structure for the financial plan, and in some cases provide guidance for the financial forecast (e.g., indexing of fares with inflation), the financial forecast is largely the product of

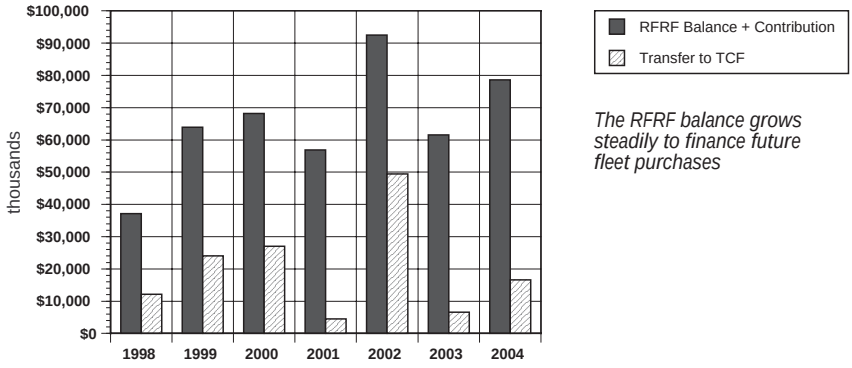
Exhibit 6.6:
Features of the Current Financial Plan

Transit Operating Fund:
Balance on Operations & Transfers to TCF



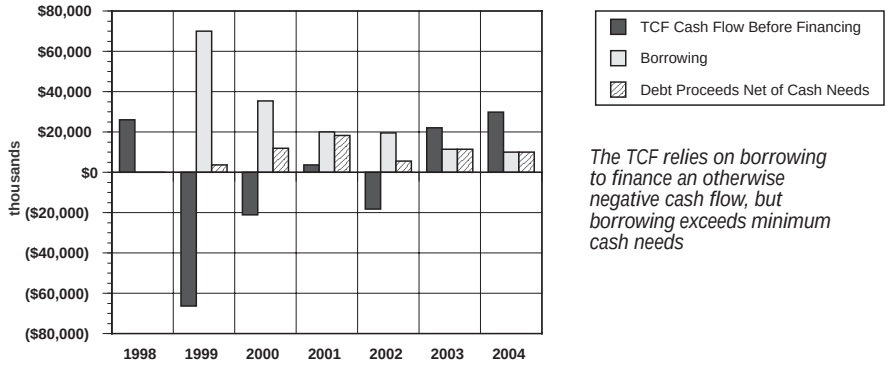
Most of the operating balance is transferred to the TCF, as tax revenue grows and service stays fairly constant

Revenue Fleet Replacement Fund:
Accumulated Balance & Transfers to TCF



The RFRF balance grows steadily to finance future fleet purchases

Transit Capital Fund cash flow



The TCF relies on borrowing to finance an otherwise negative cash flow, but borrowing exceeds minimum cash needs

assumptions about revenue and cost growth, capital improvement program (CIP) implementation schedules, and borrowing requirements.

The financial plan assumptions are described in the Financial Plan section of the Transit Division's proposed annual budget (colloquially referred to as "the black binder"). The major assumptions included with the 1999 budget submittal are reprinted in Exhibit 6.7 (page 6-17).

Most of the financial plan assumptions can be tied to individual line items in the cash flow model, included in the appendix to this chapter. The assumptions provided with the budget are presented in a different format than in the financial plan itself. Although most assumptions are documented, the differences in format require the reader to carefully compare the text and the plan to ensure consistency between the two.

The materiality of the financial plan assumptions can be gauged by the relative share of revenues and expenses for major line items affecting the PTF cash position. These are presented in Exhibit 6.8 (page 6-18) for the period 1998–2004. Sales tax, MVET, fares, and capital grants comprise most of the revenues. On the expenditure side, operating costs and capital expenditures both figure prominently. Assumptions for all other items would be unlikely to exert a material effect on Metro Transit's prospective cash position.

The financial plan assumptions can be considered, on a one-by-one basis, to be either reasonable or consistent with County policy. In a few important cases, County policy or guidance is either evolving (e.g., modifications to operations coincident with Sound Transit plan implementation), or appears to be optimistic (e.g., CIP implementation). We believe these cases tend to overstate the total amount of expenditure likely to occur in the 1999–2004 period. Consequently, the PTF may have greater financial capacity than is apparent in the current financial plan.

Our review of the service assumptions, revenue assumptions, and expenditure assumptions for the current financial plan is described below.

SERVICE ASSUMPTIONS

The financial plan is very sensitive to the service assumptions, since these affect both operating cost and fleet acquisition cost, and can influence the need for additional facility capacity as well. Service assumptions for motor bus and trolleys have the most effect on the financial plan, since these services account for most operating costs and fare revenue.

The service assumptions in the financial plan appear to be consistent with current County policy.

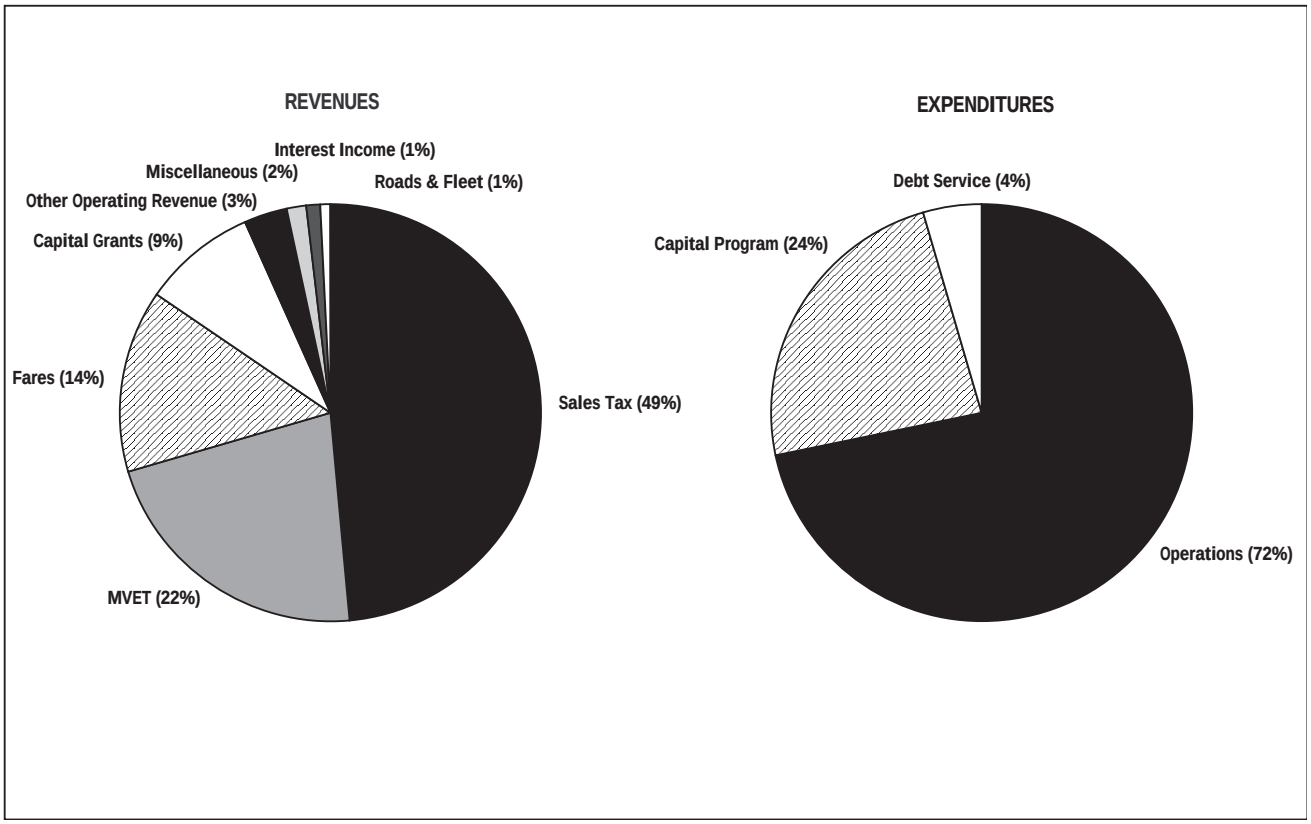
Exhibit 6.7:
Financial Plan Assumptions in 1999 Budget Submittal

SERVICE	
Motor Bus & Trolleys	SYP hours in place by end of '99; growth thru 2003 for schedule maintenance and park&rides only
Paratransit	Increases to 1,111,000 hours in '04 from 625,000 hours in '98; assumes stricter eligibility process
Vanpools	Increases to 884 vans in '04 from 655 in '98, based on apparent demand
Bus Ridership	Grows through 2004 at 1% annually
REVENUES	
Fares	Increases with ridership, plus fare increases in 2000, 2002, 2004
Other Operating Revenue	Increased in 1999 reflecting change in advertising contract; rationale for future increases not stated
Sales Tax	Increases by 6.5% in '99, 6% in '00, and 5.5% thereafter through 2004; based on County forecasts
MVET	Increases by 7.7% in '99, 4.7% in '00, 5.1% in '01, 4.9% in '02 and '03, and 5.5% in '04; based on State forecasts
Interest Income	No assumptions listed in budget; forecast ranges from 4.6% to 5.8% of average fund balance
Capital Grants: formula	Unchanged from prior year (no further breakdown)
Capital Grants: discretionary	Increased by $30 million compared to '98–'03 plan due to higher ITS grants and accelerated fleet replacement
Roads & Fleet	No assumptions listed; practice is to charge back for services provided
Miscellaneous	No assumptions listed; this category used primarily for adjustments in balance sheet accounts
DEBT	
LongTerm Debt	New debt taken out to fund P&R lots and new base capacity ($139 million)
ShortTerm Debt	Reduced to $27.5 million from prior budget due to use of long-term debt and larger transfer from TOF
EXPENDITURES	
Operating Expense	Expenditures in '99 and '00 adjusted for one-time items; post-'00 growth is at inflation + change in service
Capital Projects	Generally follows proposed CIP

Motor bus and trolley service is expected to be fairly static after 1999. This reflects the front-loading of service added in the six-year plan (SYP, 1996–2001), which was fully implemented by early 1999. Approximately 60,000 hours of service are to be added for the period 2002–2004. This is about one-seventh as much service as added in the past three years. Consequently, most net operating revenues (i.e., operating revenues less operating expenses) are anticipated to be transferred to the capital program rather than being applied to new service.

Paratransit service is expected to expand by 76% in the six-year period. This amount of growth reflects recent changes in eligibility requirements, however, and is less than what had been forecast in previous budget submittals.

Exhibit 6.8:
Relative Shares of PTF Revenues & Expenditures, 1998–2004



Vanpools are forecast to grow by about 35% in the six-year period. While this is a significant amount of growth, it poses little risk for the financial plan since most vanpool costs are recovered from fees.

It should be noted that service assumptions are identified in the budget submittal, but are not included in the cash flow statement. These values should be included with the financial plan. This would aid in interpreting the financial plan, especially with respect to new service implementation and growth in cost per hour.

REVENUE ASSUMPTIONS

The financial forecast is very sensitive to sales tax and MVET revenue forecasts. Sales tax forecasts are generated by the Transit Division for review and concurrence by the Office of Budget. MVET forecasts are provided by the State.

Revenue forecasts prepared for Sound Transit (ST), as part of its 1999 budget process, provide an independent basis of comparison for the PTF sales tax and MVET forecasts. The ST forecast was prepared for each of five subareas, three of which comprise the urbanized area of King County. For those subareas, the sales tax growth was forecast to be 4.5% annually, and the MVET growth 5.7% annually, for the period 1998–2004. These compare to the PTF financial plan assumptions of 5.3% annually for sales tax and 5.3% annually for MVET over this same period. Since sales tax revenue has greater leverage than MVET revenue, the PTF forecast is slightly more optimistic than the ST forecast. The difference in the sales tax growth rate may be partly explained by economic growth outside the ST district, which is expanding at a higher rate than for the urbanized area.

Fare revenues, though material, are less potentially volatile from year-to-year than are the sales tax and MVET revenues. The primary risk in this estimate is whether or not a fare increase will be implemented.

Of all the remaining revenues, capital grant funds are probably the most speculative. Variances in capital spend-down rates (see section addressing the CIP), as well as the competitiveness of projects for discretionary capital funds, make this revenue source inherently risky.

EXPENDITURE ASSUMPTIONS

Expenditure assumptions reflect current policy and the adopted six-year plan (SYP), but actual expenditures could easily deviate from the plan. Generally, operating costs may be higher, and capital costs and debt service would most likely be lower, than forecasted in the financial plan.

Operating expenditures reflect a carry-forward of existing service, with marginal changes for schedule maintenance and new park & ride service. Some significant changes in the service network could occur by 2004, some having a negative effect and some a positive one. For example, closure of the Downtown Transit Tunnel during its retrofit for light rail service would require extensive route deviations and would result in slower speeds and delays. New commuter rail service could reduce the need for express bus service from those communities that are directly served by the commuter rail line. Coincident with the startup of light rail service, there will probably be substantial changes to several of the most heavily-used motor and trolley bus routes (e.g., Route 7 and route 70-series). Slower running times associated with the tunnel retrofit would tend to increase costs, while route substitution and restructuring could result in decreased costs. Also, replacement of the dual-powered bus fleet with conventional buses should produce considerable operating savings. Whether these changes will cancel one another requires further analysis.

Capital expenditures in the plan assume implementation of the adopted CIP. As noted in the chapter addressing task 5.5, we doubt that the current CIP can be implemented in this period without substantial improvement to the project delivery

process. Consequently, capital expenditures during the six-year period could be considerably less than anticipated.

The financial plan also assumes that debt service costs will grow, reflecting new long-term bond issues to finance park & ride lots and base expansions, as well as the continuation of existing debt service on bonds used to finance the Downtown Transit Tunnel. In 1998, debt service costs were approximately $13 million. This is expected to rise to $29 million annually by 2004. There are two reasons why debt service costs could be considerably less: (i) the County is negotiating for Sound Transit to take over financial responsibility for the Downtown Transit Tunnel, including both debt service and operating costs; and (ii) a more gradual implementation of the CIP would considerably reduce the need to issue long-term bonds.

CORRESPONDENCE TO COUNTY POLICIES, PROCEDURES, AND PRACTICES

The current financial plan, and its assumptions, appear to conform to County policies, procedures, and practices.

As noted above, the PTF financial plan uses the annual budget submittal and the adopted SYP as its primary points of departure. Development of the annual budget is closely coordinated with the Office of Budget, which provides guidance to the Transit Division on policy issues and certain forecast assumptions. The SYP is translated annually into a service package that is reviewed by subarea planning committees, the Transportation Committee, and the Council. Thus, there is ample opportunity during this process to ensure that the financial plan conforms to prevailing policy and procedures.

CONCLUSIONS: FINANCIAL PLAN ASSUMPTIONS

- With the exception of the capital program expenditures assumption, all the assumptions in the financial plan are fairly reasonable for the situation that existed when the financial plan was formulated (July, 1998).

- Several changes to the assumptions, that appear reasonable at this time, could produce a substantially different outcome. As noted earlier, the operating balance is growing, but most of this balance is assumed to be transferred to the capital program. If CIP expenditures follow past trends, and if financial responsibility for the Downtown Transit Tunnel is transferred to Sound Transit, debt service costs could fall to a low level or potentially even eliminated. The funds otherwise slated for debt service in the current model could be applied directly to capital projects instead, leaving the operating balance available for additional service.

RECOMMENDATIONS: FINANCIAL PLAN ASSUMPTIONS

6.3 *Improve the value of the financial plan as a communications tool.* The financial plan assumptions included with the budget should tie directly to the line items in the cash flow. More information should be included about capital project schedules that underlay the capital expenditures, and to the service implementation packages assumed to be implemented. The financial plan should include key indicators that are referenced in the financial policies (e.g., OR/OE ratio, cost per hour).

Some changes in financial plan assumptions that could produce a different financial outcome may occur from recommendations made elsewhere in this chapter (see sections titled *Capital Improvement Plan* and *Six-Year Planning Process*).

continued next page

RESOURCE ALLOCATION

This part of the audit addressed: (i) consistency between the allocation of Transit Division resources with the adopted subarea allocation formula; (ii) the budget relationship between capital programming and service planning, whether capital funds are being substituted for operating revenues, and how the operating and capital budgets can be better integrated; and (iii) accounting for unused funds in the operating and capital programs. Each of these issues is addressed in turn in the remainder of this section.

Our conclusions and recommendations with respect to these issues are presented at the close of this section.

CONSISTENCY WITH THE ADOPTED SUBAREA ALLOCATION FORMULA

The question of whether service implemented since 1995 is consistent with the subarea allocation formula ties to implementation strategy IM-1 of the Six-Year Plan (SYP). That strategy identified the number of new hours to be implemented in each year of the plan, and prescribed an allocation of service subsidies to the three subareas within King County: Seattle-North King (35.8%); East King (28.2%); and South King (36.0%). This percentage distribution is based on projected population in each subarea for the year 2000.

The subarea allocation formula included in the SYP refers to service subsidies, a dollar amount, rather than to new service hours. The SYP does not explicitly define "service subsidies," however, and provides no information (e.g., operating revenue to operating expense [OR/OE] ratios by subarea) on which to judge the comparative subsidy requirements of the subareas. Service subsidy is commonly defined as the difference between the cost of service, and the farebox revenues collected for that service. If the OR/OE ratios of the subareas were roughly equal, then new platform hours would be a representative measure of the amount of subsidy being allocated to each subarea. Because the OR/OE ratio is closely related to the density of the areas being served, however, it is unlikely this is the case.

In an October 1998 report titled *Six-Year Transit Development Plan: Status of Service Implementation and Preliminary Results* , compliance with the subarea allocation formula was measured according to the hours of new service implemented by subarea. This report was prepared by the Transit Division, Service Development Section. The allocation of new platform hours appears to be fully consistent with the strategy expressed in the SYP, assuming that the subsidy per hour is roughly constant across the subareas. It should be noted that the total number of hours implemented by subarea actually exceeds the SYP forecast, primarily to additional revenues made available from higher-than-projected tax

Exhibit 6.9:
Planned and Actual Allocation of New Service, 1995–1999

subarea	SYP Hours	Actual Hours	SYP allocation	Actual allocation
Seattle-North King	126,732	150,600	35.8%	35.7%
East King	99,828	120,800	28.2%	28.6%
South King	127,440	150,600	36.0%	35.7%
total	354,000	421,900	100.0%	100.0%

Note: Six-Year Plan (SYP) hours were prorated according to the allocation of service subsidies presented in the SYP.

revenue. A summary of the SYP allocation, actual allocation, SYP hours, and actual hours by subarea are presented in Exhibit 6.9 (page 6-23).

Whether the allocation of new hours is representative of the allocation of new subsidies remains an open question. There is no reporting from the Transit Division that would allow this question to be answered directly.

INTEGRATION OF CAPITAL AND OPERATING PROGRAMS

Capital and operating programs are integrated when unified by a common service concept and implemented at approximately the same time.

The importance of capital-operating integration depends on the type of capital improvement being made. It is critical, for example, for maintenance facilities to be available at the time needed to support new service. It likewise is critical for major new passenger facilities, such as park & ride lots, to be available before service to those lots is implemented. Other types of passenger facilities (e.g., bus shelter and zone improvements) and many other types of capital improvements (e.g., speed & reliability projects) may not need to be closely sequenced with service improvements, and in fact a decision to undertake these improvements may be independent of service improvements altogether. Rather, a broader definition of integration, resting primarily on their consistency with a service concept, is more important to consider than sequence.

The SYP presented an integrated concept for re-defining transit service and providing a supporting network of passenger facilities (for details, please refer to the section titled *Six-Year Planning Process*). The plan re-oriented service to multiple destinations, and included the construction of approximately 40 transit hubs to facilitate transfers among connecting routes and to increase the visibility of transit service in heretofore lightly-served areas. The plan also included a fleet replacement schedule that was integrated with the new fleet requirements of expanded service. Other aspects of the capital program tended to be more closely associated with preservation of assets (e.g., the asset maintenance program) and spot improvements (e.g., speed & reliability), rather than being integrated with the SYP service improvements.

The scope of work asked for comment on several aspects of the integration of capital and operating programs: (i) review the budget relationship between capital programming and service planning; (ii) determine whether operating and capital budgets can be better integrated; and (iii) determine if capital funds are being substituted for operating revenues. Each of these topics are addressed below.

BUDGET RELATIONSHIP BETWEEN CAPITAL PROGRAMMING AND SERVICE PLANNING

Service planning can be thought of as having several parts with respect to time: (i) multi-year planning, as in the SYP effort, which broadly defines the types and location of new services; (ii) annual service packages, which detail the service to be implemented in the coming year, an important budgetary consideration; and (iii) service implementation planning, which produces the schedules and other details of new services to be operational at the next service change date. The budget relationship between capital programming and service planning deals with the second of the above activities.

The budget relationship between capital programming and service planning is most important for passenger facilities that are critical to the near-term service implementation plan. The Hubs program (i.e., a system-wide network of transfer centers) is probably the most important capital program element in this regard. In developing the annual service package, the Service Development section considers the project completion schedules for hubs projects. Generally, though the overall program is underexpended, the availability of hubs has not hindered service implementation. Only one example was cited by Service Development of a capital project-related delay — a consolidation of routes 6 and 306 in the Aurora corridor was delayed by one service change because the supporting capital facilities were not available.

IMPROVING THE INTEGRATION OF OPERATING AND CAPITAL BUDGETS

It is a widely held opinion that the Transit capital program and operating program are closely related. In the broad sense, this appears to be true, especially for passenger facilities, operating facilities, transit asset maintenance, and the fleet replace-

ment plan. It is less clear, however, that individual projects within these programs tie directly to service requirements, or are to be implemented as of a certain date to support a service improvement.

Through 1999, all of the new service in the SYP will have been implemented, but only about 40% of the revised CIP (for SYP projects only) has been expended. Clearly, implementation of the capital program is out of step with service implementation, and begs the question of the importance of operating and capital program integration.

The integration of the operating and capital budgets would be improved by focusing management and Council attention on the linkage between capital projects and the operating programs they are to support. Currently, the CIP appears as a list of projects with no apparent reference to the service improvements or elements of transit operations they are to support. Making these connections more apparent would aid in appropriations decisions, and would also aid in evaluating the necessity of the capital project if is consistently delayed.

SUBSTITUTION OF CAPITAL FUNDS FOR OPERATING REVENUES

The structure of the Public Transportation Fund (PTF) protects against the substitution of capital funds for operating revenues. The structure of the fund, and policies affecting transfers between the transit operating subfund, the transit capital subfund, and the revenue fleet replacement subfund, were discussed earlier in the section titled *Financial Policies.* There appears to be no opportunity for, nor any apparent practice of, substituting capital funds for operating revenues.

There are, however, two cases that obfuscate the distinction between capital and operating funds.

First, capital grant funds may be acquired for traditionally operating purposes. Federal grant policy allows transit systems to receive capital grant funds for the preventive maintenance of Federally-funded capital assets. These assets include revenue vehicles, passenger facilities, and operating facilities. The Transit Division is seeking grants for these purposes. This would be a legitimate substitution of capital funds for operating revenues.

Second, capital projects may include activities or expenditures that do not result in or contribute to the creation or acquisition of a fixed asset. These are effectively operating expenditures that are being paid for with capital funds. We are not aware of specific circumstances where such substitutions are being made. As noted later in this chapter, however, the CIP is characterized by many small projects with a high degree of staff time. When the reporting system for the CIP is improved, as later recommended, the increased visibility of soft capital costs will aid in determining if any of these should be reclassified as an operating expense.

ACCOUNTING FOR UNUSED FUNDS

The Division's accounting of unused funds is affected by the structure of the Public Transportation Fund, which is defined by the PTF financial policies. These policies were described in the first section of this chapter.

There are three subfunds in the PTF: the transit operating fund (TOF), the transit capital fund (TCF), and the revenue fleet replacement fund (RFRF). The first two of these record expenditures. The RFRF serves only to accumulate and invest fleet replacement funds; these are transferred to the TCF to cover the local share of fleet expenditures when they occur. Thus, the question of accounting for unused funds rests only with the TOF and TCF.

Both the TOF and TCF have reserves that accumulate unused funds. In recent years, the TCF has had substantially more unused funds in a given year than has the TOF. The trend in unused funds for the TOF and TCF is presented in Exhibit 6.10 (page 6-26). Unused funds generally are made available to the next year's operating or capital program. Operating surpluses may, however, be transferred to the TCF via appropriation.

Exhibit 6.10:
Transit Fund Underutilization, 1996–1998

	1996	1997	1998
Transit Operating Fund			
budget	$253.1	$284.6	$307.5
actual	251.1	275.5	300.4
unused	$2.0	$9.1	$7.1
Transit Capital Fund			
budget	$104.2	$163.6	$135.8
actual	69	109.9	49.6
unused	$35.2	$53.7	$86.2

Dollars in millions. Based on adopted budget and actual results. Capital fund budget is the first year of the CIP.

CONCLUSIONS: RESOURCE ALLOCATION

- Implementation of new transit service in the SYP appears to have been consistent with the subarea allocation formula included in the SYP. It is unclear, however, whether the allocation of new hours corresponds to the distribution of subsidies by subarea, because that no information is readily available to confirm the comparative subsidies in the three subareas.
- The capital and operating programs are integrated in a broad sense. The importance and relevance of individual projects should be made more apparent, however, in the presentation of the capital program for an appropriations decision. The lag between SYP service implementation (virtually 100% complete) and capital program implementation (about 40% complete) tests the assumption that all capital projects are necessary.
- The Division's accounting of unused funds is consistent with the financial policies that affect the Public Transportation Fund.

RECOMMENDATIONS: RESOURCE ALLOCATION

6.4 *The Transit Division should confirm the allocation of new service subsidies, based on the subsidy requirements of the services implemented since 1995.* The status report on the SYP that was prepared in October 1998 provided a good summary of the SYP implementation. It skirted, however, the basis of the allocation of new service. The intent of the plan was to distribute new services based on their subsidy requirements, based on the relative share of population in the subareas. The SYP status report summarized new service hours by subarea, without regard to their subsidy requirements. To be consistent with the definition in the plan, Transit needs to compute and report the subsidy requirements for the new service by subarea.

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INVESTMENT POLICIES

This part of the audit addressed: (i) the Transit Division's operating and capital investment policies and strategies; (ii) the role of Federal Transit Administration (FTA) policies in guiding the Transit Division's operating and capital functions; and (iii) policies that provide for fund substitution or switching. Each of these issues is addressed in turn in the remainder of this section.

Most of the background and analyses needed to support the findings presented in this chapter were provided in other sections of this chapter, notably: *Financial Policies*; *Financial Plan Assumptions*; *Resource Allocation*; *Internal Controls and Performance Monitoring*; and *Six-Year Plan Planning Process*.

Our conclusions are as follows: (i) operating and capital investment policies exist, are internally consistent, and are incorporated in the Transit Division's six-year financial plan; (ii) FTA policies are not a significant consideration in guiding the Transit Division's operating and capital functions, but may occasionally present an incentive for pursuing grants in an area of interest to the FTA; and (iii) some limited opportunity exists for fund substitution and switching, but no abuse of this potential was observed.

We have made no recommendations with respect to investment policies, but related recommendations found elsewhere in this chapter are noted in the findings that follow.

OPERATING AND CAPITAL INVESTMENT POLICIES

The Transit Division's operating and capital investment policies are defined in two documents: (i) the Six-Year Transit Development Plan (known as the SYP); and (ii) transit program financial policies, which are presented with the annual budget submittal to the Executive.

The SYP includes a series of strategies to guide the implementation of operating and capital programs. The strategies were developed in consideration of the *Comprehensive Plan Long-Range Policy Framework*, and are internally consistent. The strategies provided fairly specific direction about the level of investment in operating programs for bus, vanpool, and paratransit services, for the period 1995–1999. These levels of investment were directly incorporated in the six-year financial plan. The strategies also guide, but do not totally prescribe, the annual CIP. The CIP is also incorporated in the six-year financial plan. We have made recommendations to improve the CIP development and monitoring (see *Capital Improvement Program*), and to improve the utility of the financial plan as a communication document (see *Financial Plan Assumptions*).

The transit program financial policies were described earlier in this chapter. Generally, we found that the policies are reasonable, are internally consistent, and are consistent with the strategies articulated in the adopted SYP. We recommended that the policies be amended to include an explicit link between the SYP capital program and the annual capital project appropriations process. We also recommended that the policies be amended to define priorities for the acquisition of grant funds.

ROLE OF FTA POLICIES

The scope of work required that we: (i) define the role of FTA policies in guiding the Transit Division's capital and operating functions; and (ii) compare local and Federal definitions of capital and operating expenses.

Generally, FTA policies are of little importance in guiding the Transit Division's operating and capital functions. FTA policies are a consideration in managing Federal grant-funded projects, which occur predominantly in the capital program. Also, the FTA will occasionally introduce new regulations that affect changes in service (e.g., public participation requirements) or place other requirements on program management. There have been no material changes in this regard, however, during the period of the audit.

Heightened emphasis on certain grant programs by the FTA may occasionally provide a financial incentive to the Transit Division to pursue a particular capital project. Intelligent transportation systems (ITS) funds and the FTA's Livable Communities Initiative are examples of planning emphasis areas for which FTA seeks grant applications. These emphasis areas do not guide the Transit Division's capital program, but may influence their decision to advance a project where it might not otherwise have done so. Improved linkage between the capital improvement program and the SYP, as recommended later in this chapter, would help ensure that capital projects are not pursued simply because grant funds are available.

Distinctions between capital and operating expenditures, both by the FTA and the Transit Division, focus on the definition of a capital expenditure. Expenditures not meeting that definition are an operating expenditure. There are no apparent conflicts between the Federal and local definitions of a capital expenditure, since both rely on generally accepted accounting principles — a capital expenditure is for an asset having a useful life in excess of one year.

The FTA distinguishes, however, between capital grant-eligible projects and capital expenditures. The former depends on definitions of project eligibility that are incorporated in the surface transportation authorization act (currently the Transportation Equity Act for the 21st Century, or TEA21). Maintenance expense, for example, is an operating expenditure, but is eligible for capital grant funds. None-

theless, when a transit agency reports its operating and capital expenditures in its National Transit Database submittal, the maintenance expense must be reported as an operating expenditure, even if funded with a capital grant.

POTENTIAL FOR FUND SUBSTITUTION OR SWITCHING

By virtue of the structure of the Public Transportation Fund (PTF), there is practically no opportunity for uncontrolled fund substitution or switching between capital and operating programs. The PTF is organized as three distinct subfunds (operating, capital, and revenue fleet replacement). Revenue sources are fairly well segregated among these funds, and transfers among the funds are controlled by appropriation. Details on the structure of the PTF and the policies which affect fund transfers were described earlier in this chapter.

There are, however, indirect means by which capital funds can potentially be substituted for operating funds. These include: (i) use of Federal capital grant funds to pay for maintenance costs of Federally-funded vehicles and facilities, which is a legitimate substitution of operating funds; and (ii) funding of "soft capital" labor when no capital asset results from a capital project. These were both addressed in the section titled *Resource Allocation*. We did not observe any abuse of the potential for such fund substitution or switching.

CONCLUSIONS: INVESTMENT POLICIES

- Operating and capital investment policies exist, are internally consistent, and are incorporated in the Transit Division's six-year financial plan.
- FTA policies are not a significant consideration in guiding the Transit Division's operating and capital functions, but may occasionally present an incentive for pursuing grants in an area of interest to the FTA.
- Some limited opportunity exists for fund substitution and switching, but no abuse of this potential was observed.

RECOMMENDATIONS: INVESTMENT POLICIES

We are making no recommendations with respect to investment policies.

CAPITAL IMPROVEMENT PROGRAM

This part of the audit included a review and evaluation of the Transit Division's capital improvement program (CIP). The narrative which follows presents: (i) a background on the evolution of the CIP since adoption of the Six-Year Plan (SYP) in 1995; (ii) a comparison of planned versus actual expenditures for 1996–1998; (iii) an assessment of the ability to complete the SYP capital program by 2001; and (iv) an assessment of project management structure and systems.

We conclude that the capital program needs substantially greater management control. The principal symptoms include consistent under-spending of projected annual capital expenditures, the lack of feedback mechanisms to provide a more practical and attainable schedule, and an appropriations process that provides no milestone review of the status of capital projects. We recommend that the County implement a series of management improvements to increase overall program effectiveness. Our conclusions and recommendations are presented in more detail at the close of this section.

BACKGROUND

The capital improvement program (CIP) is a collection of projects for which funds are appropriated by Council for a seven-year period. This period includes the current budget year and six additional years. The CIP adopted with the 1999 budget, for example, included appropriations for 1998 (the current budget year at the time the CIP was adopted) and for 1999–2004.

The primary policy basis for the CIP is the Six-Year Plan (SYP) adopted in December, 1995. This plan anticipated $680 million in capital expenditures between 1996 and 2001, a six-year period.

Because the SYP is the primary policy for the CIP, and since it covered a six-year period, the analysis presented in this section of the report focuses on the six-year period 1996–2001, using actual expenses through 1998. Thus, the total CIP expenditures presented herein will not tie directly to the adopted CIPs, since the CIPs were for seven-year periods. Also, the expenditures used in the analysis exclude leases and reimbursable expenses. These expenses have been quite variable, and were not included in the original SYP or the 1996 CIP. Excluding these expenditures from the remaining years improves the consistency of the comparisons.

Exhibit 6.11 (page 6-32) provides a comparison of the SYP plan capital program to the 1996 CIP and to the current CIP. The SYP noted that the proposed capital program would be adjusted pending the outcome of the 1996 budget process. Thus, the 1996 adopted CIP presents the best picture, from a policy standpoint, of

Exhibit 6.11:
Comparison of Six-Year Plan Capital Program to Adopted CIPs

dollars in nominal milions, accumulated for 1996–2001

Program	Six-Year Plan	1996 CIP	1996R CIP	change from 1996 CIP	Post-'96 projects	Actual plus current CIP thru 2001	change from 1996 CIP
Fleet	330.1	331.7	301.4	(30.3)	4.1	305.5	(26.2)
Passenger Facilities	63.6	56.9	41.6	(15.3)	42.7	84.3	27.4
Speed & Reliability	34.7	32.6	16.1	(16.5)	6.1	22.2	(10.4)
Trolley Overhead	35.4	30.8	22.0	(8.8)	2.3	24.3	(6.5)
Vanpool	27.5	24.9	23.0	(1.9)	-	23.0	(1.9)
Other:							
ADA	18.9	16.0	17.3	1.3	-	17.3	1.3
Art		0.7	1.5	0.8	-	1.5	0.8
Asset Maintenance	na	48.7	68.2	19.5	-	68.2	19.5
Miscellaneous	na	12.2	9.9	(2.3)	10.7	20.6	8.4
Business Systems	na	5.5	3.1	(2.4)	-	3.1	(2.4)
Operating Facilities	49.5	43.7	59.4	15.7	0.1	59.5	15.8
Transit Technology	na	16.3	20.8	4.5	2.2	23.0	6.7
subtotal, other	188.7	143.1	180.2	37.1	13.0	193.3	50.2
TOTAL	680.0	620.0	584.3	(35.7)	68.2	652.6	32.6

notes:

All values are for 1996–2001, and exclude leases and reimbursable expenses.
The SYP values are targets from Table 5-1 of the plan. Values labelled "NA" were not specifically cited in the plan.
The 1996 CIP values are from the adopted CIP for 1996–2001.
The 1996R CIP is the current appropriation for projects initiated in 1996. It is estimated from the current (1998-2004) CIP, less planned expenditures in 2002-2004, plus actual expenditures in 1996-1997. This adjusts the 1996 six-year plan CIP to reflect reductions in 1996 CIP projects that have occurred since the original appropriation.
Post-'96 projects are those added since the SYP; some of these may be redefinitions of 1996 projects.
Actual plus current CIP is the current appropriations estimate for all projects active between 1996 and 2001.

what the six-year plan was to accomplish between 1996 and 2001. This CIP totaled $620 million, and differed from the SYP primarily in the capital programs included under "other." With the exception of ADA fleet expenditures, and operating facilities expenditures, these "other" elements were not clearly defined in the SYP.

Two types of changes have occurred in the program since the time of the 1996 CIP. Some of the original 1996 projects have been modified to reflect changes in scope or priority. The column labeled 1996R CIP reflects the current six-year estimate for projects initiated in 1996. This is $35.7 million (or 5.8%) less than the 1996 CIP. Changes by program are noted in the exhibit. The second type of change is from projects added to the CIP since 1996. These are noted in the column labeled Post-'96 projects, and reflect the actual and projected expenditures through 2001 of new projects. Most of the change is attributed to an expansion of the park & ride program, which received little priority in the SYP, and the transit-oriented development program, which supports multi-use development on or adjacent to transit passenger facilities.

Overall, the current CIP assumes an increase of about $33 million compared to the 1996 CIP. This is the net of program adds ($80m) and reductions ($47m). The principal additions are in passenger facilities ($27.4m), asset maintenance ($19.5m), and operating facilities ($15.8m). The principal reductions are in fleet replacement ($26.2m), and speed & reliability projects ($10.4m).

ACTUAL VERSUS PLANNED ACTIVITY

In connection with the annual budget cycle, capital project managers prepare a detailed request for funding that addresses all material aspects of a project. These include: (i) a narrative describing the project, including its status and schedule; (ii) projected annual expenditures by phase (i.e., planning, pre-design, design, right-of-way acquisition, construction, close-out); (iii) grant funds by source; (iv) effect on operating costs; and (v) FTEs and project costs by category. This system gives the appearance of careful consideration of project expenditures, schedule, and cost reimbursement through grants.

It should be noted that there is not an annual "budget" for capital projects. Rather, the financial control for the CIP is a seven-year appropriation (i.e., current year plus six future years). The six-year CIP forecast is incorporated in the financial plan, and exerts considerable influence on the programming of future year operating and capital resources, as well as transit program borrrowing needs. Thus, it is important that the CIP forecast be accurate.

Although the budget process appears to be rigorous, actual results indicate substantial divergence from planned activity. Exhibit 6.12 (page 6-34) provides a breakdown of the projected annual expenditures and actual variances by program. A positive variance indicates underspent funds. Although a positive variance does not

Exhibit 6.12:
CIP Budget & Variances, 1996–1998

Program	1996 Forecast	Variance	1997 Forecast	Variance	1998 Forecast	Variance
ADA	301,939	38%	916,755	87%	1,189,159	(42%)
Art	300,000	31%	287,270	(13%)	166,691	78%
Asset Maintenance	13,618,680	21%	18,378,939	47%	13,187,508	41%
Fleet	35,720,453	(3%)	73,302,477	8%	57,328,797	82%
Miscellaneous	6,307,120	72%	5,162,000	66%	11,270,024	69%
Operating Facilities	3,938,963	48%	7,307,571	26%	9,123,142	35%
Passenger Facilities	12,754,343	70%	24,530,586	76%	21,500,617	69%
Speed & Reliability	7,503,990	69%	6,987,029	76%	6,640,294	64%
Business Systems	2,168,626	8%	1,316,715	67%	256,945	(62%)
Transit Technology	8,499,494	67%	8,609,511	52%	6,666,986	53%
Trolley Program	13,064,942	52%	10,154,785	30%	2,966,509	32%
Vanpool	0	0%	6,688,465	18%	5,560,432	0%
total	104,178,550	33%	163,642,103	33%	135,857,104	64%
nonfleet programs	68,458,097	53%	90,339,626	53%	78,528,307	50%

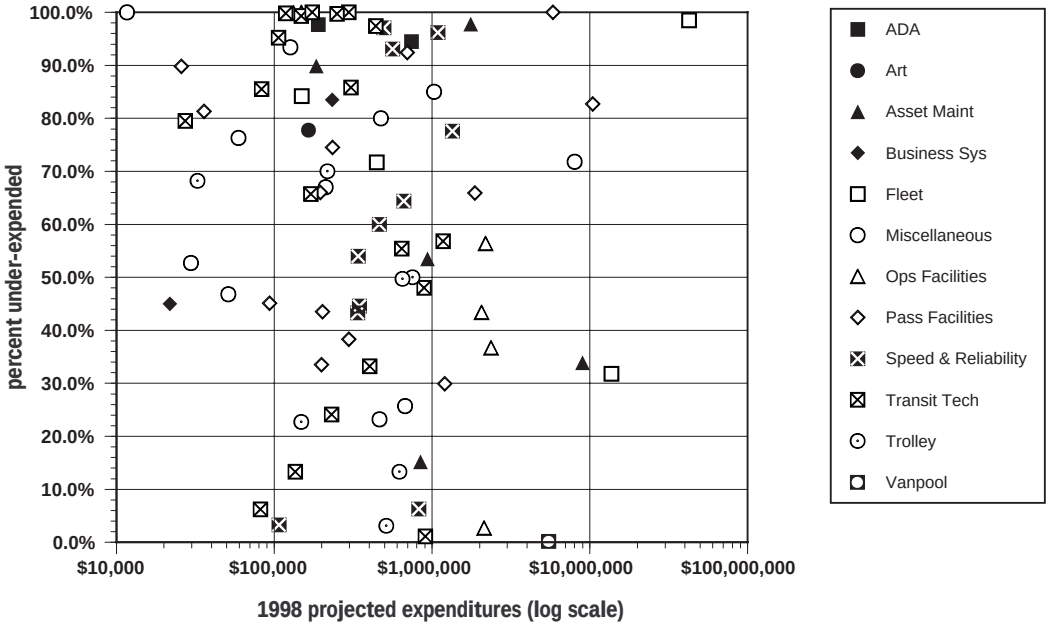
positive variance indicates percent of forecast not spent; negative variance indicates over-spending

necessarily mean that a project is behind schedule, the consistency and magnitude of positive variances for 1996–1998 strongly suggest that this is the case.

The variance for non-fleet projects (i.e., all projects but fleet replacement and acquisition) has hovered around 50% for the past three years. The programs having the largest average variances are passenger facilities (72%), speed & reliability (70%), miscellaneous (69%), and transit technology (57%). Variations in planned versus actual fleet cost were small in 1996 and 1997, but large in 1998 due to a change in delivery schedule. The fleet costs are expected to catch up in 1999.

An analysis of individual project variances for 1998 indicates that under-spending is pervasive. Exhibit 6.13 (page 6-35) presents the variances for 83 projects. Only 10 projects were within 20% of the projected annual cost, and 30 projects had vari-

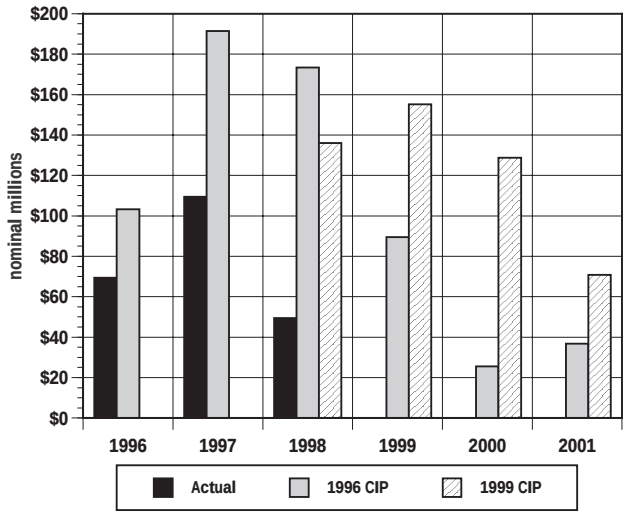
Exhibit 6.13:
Expenditure Variances by Project, 1998 Capital Program



ances of more than 80%. These results give the appearance that the annual forecast simply does not serve as a control tool. Similar graphs were developed for each of the capital programs; the same general pattern exists within each program.

There are several negative implications to this pattern of deferred spend-down of capital projects. First, it indicates that feedback systems within the Transit Division are ineffective at adjusting resources or schedules to define a practical plan. Second, the too-generous estimate of annual capital expenditures makes the PTF financial plan unreliable. Less than a year ago, the PTF was anticipated to have to borrow $70 million in 1999 to fund capital projects. In fact, the positive variance for 1998 may completely nullify the need to borrow in 1999. Third, because the operating components of the SYP have been fully implemented, with substantial gains in ridership, the deferral of capital projects brings their incremental value into question. Finally, deferred spending translates into deferred billing against approved grants, potentially making the acquisition of additional grant funds more difficult, since grantors may be reluctant to award more funds if existing awards have scarcely been drawn.

Exhibit 6.14:
Actual CIP Expenditures versus 1996 & 1999 CIP Forecasts



Note that forecasted values for 1999–2001 are likely to be revised upward. The 1999 CIP assumed expenditures of $136m in 1998, which was $87m higher than actual expenditures. This shortfall will need to be made up in future years.

IMPLEMENTATION CAPACITY FOR COMPLETING THE SYP CAPITAL PROJECTS

As noted earlier in this section, revisions to the CIP have slightly increased the $620 million capital program for 1996–2001 that was adopted in 1996 (refer back to Exhibit 6.11, page 6-32). The revised total for this period is now $653 million, a 5% increase. If all went according to plan, then, the capital component of the Six-Year Plan could be implemented by 2001.

The trend in actual expenditures to-date suggests, however, that it is unlikely the target will be achieved. Exhibit 6.14 (page 6-36) compares actual CIP expenditures to the 1996 CIP forecast and to the 1999 CIP forecast. The graph shows a general trend of deferring capital expenditures to later years. This trend is consistent with the 1996–1998 variances noted immediately above; capital draws not realized as planned appear to be rolled forward.

The current CIP anticipates a sharp increase in expenditures for the 1999–2001 timeframe. Average annual expenditures for 1996–1998 were $76 million, which can be divided into fleet purchases ($38.2m) and other capital projects ($37.8m). Between 1999 and 2001, average annual expenditures were forecast in the 1999 CIP to be $118 million. Because the 1998 variance was so large, however, average annual expenditures would need to be $147 million to meet the plan, or about double the recent trend. Average annual fleet expenditures would need to increase by 65% (to $63m per year); expenditures for other capital projects would need to increase by 121% (to $83.4m per year).

An examination of factors that contribute to the Transit Division's capacity for delivering these projects was beyond the scope of this audit. However, the above results raise considerable doubt regarding the Division's ability to sustain the forecasted level of activity.

MANAGEMENT SYSTEMS

Management systems include the organization structure of the capital program, the process for selecting projects to include in the proposed budget each year, and the monitoring systems used to evaluate the effectiveness of the organization and projects.

Our findings in each of these areas are presented below.

MANAGEMENT STRUCTURE

The capital program is managed in a decentralized fashion. Generally, the client for a project (i.e., the section having operating responsibility for the project once delivered) is the assigned project manager. The client thus is responsible for the proper functioning of the investment represented by a capital project, from concept through startup.

Exhibit 6.15 (page 6-38) shows how project management responsibility is currently allocated for each of the major areas within the capital program. The percentages in this table refer to the percent of a program group (e.g., ADA) that is the responsibility of a particular section within the Transit Division, or in some cases, an external organizational unit. Percentages are provided for both the number of projects and the appropriated dollar value of projects to provide a sense of scale.

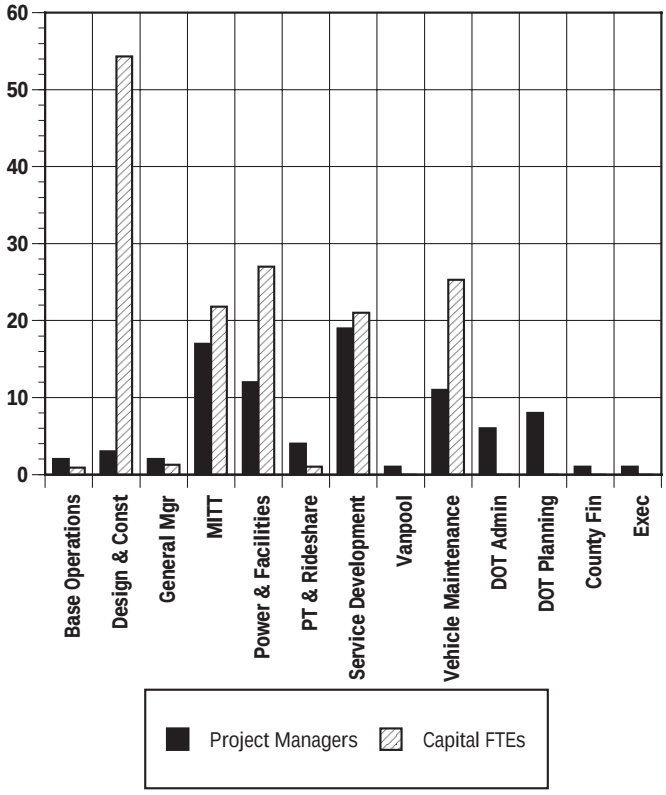
Responsibility for several of the programs — ADA, Art, Fleet, Speed & Reliability, Trolleys, and Vanpool — is fully vested in a single section. For all other programs, project management responsibility is split, depending on the client for the project. In Asset Maintenance, for example, information technology projects are assigned to Management Information and Transit Technology (MITT), while projects that involve facility asset replacement are assigned to Power & Facilities.

Some of the projects funded by the Public Transportation Fund are outside the control of the Transit Division. Although the division directly manages about 80% of the projects and about 91% of the overall capital program, some significant projects are managed externally. These include several of the park & ride lot projects, transit oriented development, art, and several information systems projects.

Exhibit 6.15:
Project Management by Section and Program

		ADA	Art	Asset Maintenance	Fleet	Miscellaneous	Operating Facilities	Passenger Facilities	Speed & Reliability	Transit Technology	Trolley Program	Vanpool	total
Base Operations	% of projects	—	—	—	—	6.7%	—	—	—	5.6%	—	—	2.2%
	% of $value	—	—	—	—	1.5%	—	—	—	2.9%	—	—	0.1%
Design & Construction	% of projects	—	—	—	—	13.3%	—	—	—	5.6%	—	—	3.4%
	% of $value	—	—	—	—	1.1%	—	—	—	0.9%	—	—	0.1%
General Manager	% of projects	—	—	—	—	13.3%	—	—	—	—	—	—	2.2%
	% of $value	—	—	—	—	12.4%	—	—	—	—	—	—	0.6%
MITT	% of projects	—	—	50.0%	—	6.7%	—	—	—	77.8%	—	—	19.1%
	% of $value	—	—	14.9%	—	5.8%	—	—	—	84.3%	—	—	3.4%
Power & Facilities	% of projects	—	—	25.0%	—	—	85.7%	—	—	—	100.0%	—	13.5%
	% of $value	—	—	82.5%	—	—	98.5%	—	—	—	100.0%	—	20.7%
Paratransit/Rideshare	% of projects	100.0%	—	—	—	—	—	—	—	—	—	—	4.5%
	% of $value	100.0%	—	—	—	—	—	—	—	—	—	—	4.3%
Service Development	% of projects	—	—	—	—	6.7%	—	46.7%	100.0%	—	—	—	21.3%
	% of $value	—	—	—	—	0.1%	—	58.6%	100.0%	—	—	—	10.0%
Vanpool	% of projects	—	—	—	—	—	—	—	—	—	—	100.0%	1.1%
	% of $value	—	—	—	—	—	—	—	—	—	—	100.0%	5.8%
Vehicle Maintenance	% of projects	—	—	25.0%	100.0%	—	14.3%	—	—	5.6%	—	—	12.4%
	% of $value	—	—	2.6%	100.0%	—	1.5%	—	—	10.8%	—	—	45.7%
subtotal — Transit	% of projects	100.0%	0.0%	100.0%	100.0%	46.7%	100.0%	46.7%	100.0%	94.4%	100.0%	100.0%	79.8%
	% of $value	100.0%	0.0%	100.0%	100.0%	20.9%	100.0%	58.6%	100.0%	98.9%	100.0%	100.0%	90.8%
DOT Admin	% of projects	—	—	—	—	40.0%	—	—	—	—	—	—	6.7%
	% of $value	—	—	—	—	76.9%	—	—	—	—	—	—	4.0%
DOT Planning	% of projects	—	—	—	—	—	—	53.3%	—	—	—	—	9.0%
	% of $value	—	—	—	—	—	—	41.4%	—	—	—	—	4.9%
Other	% of projects	—	100.0%	—	—	13.3%	—	0.0%	—	5.6%	—	—	4.5%
	% of $value	—	100.0%	—	—	2.2%	—	0.0%	—	1.1%	—	—	0.3%

Exhibit 6.16:
Project Managers and Capital FTEs by Section



The decentralized management structure could contribute to the expenditure variances noted earlier, due to conflicts in lines of reporting. There are currently about 153 full-time equivalent (FTE) employees assigned to the capital program. A comparison of project managers by section, and capital FTEs by section, is presented in Exhibit 6.16 (page 6-39). Although project management is distributed, most sections rely on staff from the Design & Construction section for technical support. If Design & Construction is providing this extent of support to the capital projects, but has limited project management authority, conflicts may exist between responsibility and authority for a project's progress.

PROJECT SELECTION

The project selection process is guided by criteria that are documented in the annual CIP submittal. These include: (i) maintaining infrastructure and replacing aging fleets; (ii) supporting implementation of the Six Year Plan (SYP); (iii) replacing outdated information systems; (iv) increasing efficiency or productivity that offsets the cost of investment; and (v) forming partnerships with other jurisdictions

and businesses throughout the region. These criteria express reasonable priorities for the allocation of transit capital funds.

Preparation of the CIP submittal considers the financial capacity for the overall capital program, and distinguishes between continuing projects and new projects. Financial capacity for the capital program is determined from the forecast for the Transit Capital Fund. Continuing projects are reviewed to evaluate proposed changes in schedule and costs. New projects are weighed against the project selection criteria noted above. Recommendations for the CIP submittal are prepared by Budget & Finance staff and presented to the Transit Division senior staff for approval.

New projects — those added to the CIP since 1996 — tend to be influenced more by emerging priorities rather than being grounded in the SYP. Exhibit 6.17 (page 6-41) lists the new projects, in descending order of cost, based on the 1999 CIP appropriations. Slightly over half of the cost is attributed to projects not envisioned in the plan. These include park & ride expansion, transit oriented development, pedestrian bridges, and the Kingdome multimodal project.

The project selection process tends to result in a large number of fairly small projects. Exhibit 6.18 (page 6-42) presents a frequency distribution of capital projects by size, where size is the 1999–2004 appropriation. Thirty percent of the projects are less than $500,000 each. Given the comparatively high soft costs of small projects, the selection process should carefully consider the incremental value of these projects, and their hidden transactional cost, as part of the selection process.

MONITORING SYSTEMS

The Transit Division relies primarily on the IBIS system to track project costs against the total appropriation and the current year budget. These results are reviewed by the Budget & Finance staff; costs and budget by program are presented in the General Manager's quarterly report.

This monitoring system has several deficiencies that deserve attention. First, no information is regularly reported on project status, such as schedule, project phase, or attainment of milestones. These items receive formal review only during the annual budget. Second, it is very cumbersome to extract trends in expenditures or performance against budget, and to relate these results to the responsible project managers. Third, there is no reporting of progress against the capital projects included in the SYP. Finally, there is no post-implementation evaluation of projects to determine if projected operating efficiencies were achieved.

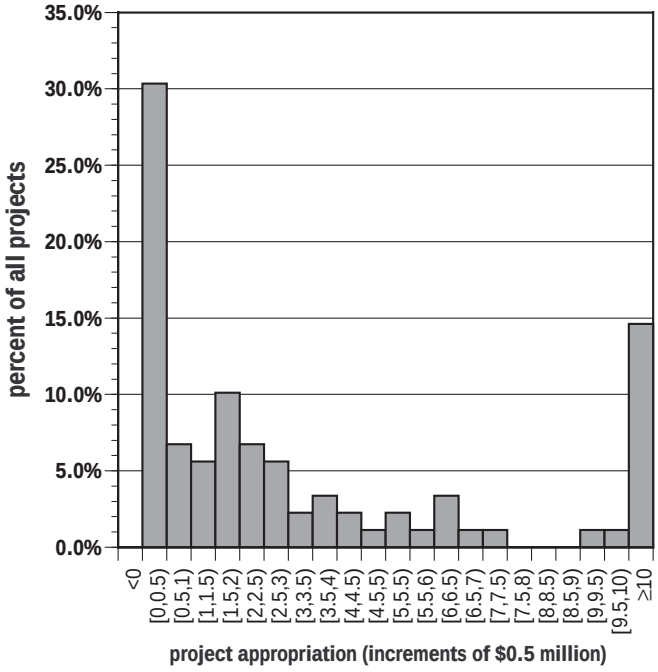
Exhibit 6.17: Capital Projects Added Since 1996

Program	Number	Name	Appropriation (7-year total)
Passenger Facilities	A00205	Bus Zone Safety & Access	18,294,302
Passenger Facilities	A00487	Federal Way Park & Ride°	17,909,000
Miscellaneous	A00484	Northgate TOD Park & Ride	10,018,000
Passenger Facilities	A00486	Eastgate Park & Ride Lot°	9,629,000
Miscellaneous	A00466	Transit Oriented Development	7,042,111
Trolley Program	A00400	Central Substation Relocation	6,500,986
Miscellaneous	A00483	Royal Brougham Ped Bridge	6,311,757
Passenger Facilities	A00488	Issaquah Highlands Park & Ride°	6,000,000
Miscellaneous	A00401	Kingdome Multimodal	5,266,069
Passenger Facilities	A00451	University District Staging Area	4,001,000
Fleet	A00412	Dual Power Buses	3,920,000
Fleet	A00480	Breda Conversion to Trolley	3,731,278
Speed & Reliability	A00405	S King Co Transit Imp*	3,092,208
Speed & Reliability	A00402	E King Co Transit Improvements*	2,368,000
Speed & Reliability	A00404	SeaShore Transit Improvements*	2,250,000
Miscellaneous	A00460	King Street Ctr Misc	1,676,736
Speed & Reliability	A00403	Regional Signal Priority*	1,587,000
Passenger Facilities	A00224	Rural Towns Park & Ride	1,008,694
Speed & Reliability	A00485	Spokane St Transit Imp	750,000
Fleet	A00478	Additional Fareboxes	724,959
Passenger Facilities	A00413	P&R Capacity Enhancement	694,900
Transit Technology	A00408	Smart Trek - Transit Systems	641,999
Transit Technology	A00455	Service Quality Info System	273,410
Miscellaneous	A00473	Smart Growth Amenities	250,000
Transit Technology	A00476	Additional Radio Channels	175,000
Transit Technology	A00453	New Regional AVL System	168,494
Fleet	A00479	Contingency Fleet Radios	155,250
Operating Facilities	A00454	Replace Lk Union Fuel Fac	150,000
Transit Technology	A00452	D&C Work Process Cont Sys	150,000
Transit Technology	A00409	KC Comp Radio Plan	33,738
TOTAL			114,773,891
TOTALS BY PROGRAM			
ADA			-
Art			-
Asset Maintenance			-
Fleet			8,531,487
Miscellaneous			30,564,673
Operating Facilities			150,000
Passenger Facilities			57,536,896
Speed & Reliability			10,047,208
Business Systems			-
Transit Technology			1,442,641
Trolley Program			6,500,986
Vanpool			-
TOTAL			114,773,891

* formerly known as Six-Year Plan Corridors and Spot Improvements projects

° managed by DOT Transportation Planning Division

Exhibit 6.18:
Frequency of 1999 CIP Project Appropriations



CONCLUSIONS: CAPITAL IMPROVEMENT PROGRAM

The CIP is not well-controlled. The fundamental problem is that expenditures, and by inference project implementation, substantially lag the plan. Large, positive variances existed between planned and actual expenditures in each of the three years (1996–1998) that we analyzed. These variances occurred across all constituent programs of the CIP, and across most projects. There is practically no visibility of capital project status. Because the CIP is a large and variable component of the Public Transportation Fund (PTF) financial plan, the inability to predict and control annual capital expenditures makes it impossible to gauge the effectiveness of allocating funds between the operating and capital programs. Also, the apparent lack of an effective feedback mechanism sends a message that budget and schedule adherence is not a high priority. Correction of these deficiencies should be a priority of the Transit Division. An accurate picture of capital program needs and outlays will be a critical area of policy as the County updates the SYP.

RECOMMENDATIONS: CAPITAL IMPROVEMENT PROGRAM

6.5 *Revise the project appropriations process to include separate authorization and appropriation steps.* The intent of this step is to control costs and to provide more visibility over the status and history of a project than is possible under the current seven-year appropriation. The chief features of this recommendation include:

- Lifetime cost authorized for each project
- Appropriations made for each phase (planning & environmental, permitting & ROW, design, construction)
- On-going projects (e.g., asset maintenance) subject to annual appropriation.
- Funds lapse after some period (e.g., 2 years) if not drawn.

6.6 *Centralize capital program management for construction projects.* The management of construction projects should be centralized in the Design & Construction section, whose primary mission is to deliver projects. Clients would have to be involved in the process, and would sign off (or have veto authority) on functional characteristics of the project. This separation would place responsibility for cost and schedule control, and enforcement of specifications, in a section that has no competing priorities for management attention.

6.7 *Report schedule and cost adherence on a regular basis.* The monitoring system should be modified to report progress by phase by project for the current year, including identification of the project manager. This will provide an unambiguous picture of project status and cost.

6.8 *Perform post-implementation and in-process reviews of capital projects.* Post-implementation reviews should be performed annually for a sample of projects that were justified on the basis of operating or cost efficiencies. This information should become part of the body of knowledge for identifying the types of capital investments that are economically beneficial. Large, multi-year projects should be reviewed periodically (e.g., at the conclusion of each phase) to determine if the scope of the project is still consistent with its objectives and likely benefits.

FINANCE AND BUDGETING

This part of the audit addressed: (i) the need to augment or improve finance operations; (ii) the potential for improved planning and budgeting efficiencies by combining the Division's budgeting and finance functions with those of the Department of Transportation; and (iii) whether the addition of a finance manager position would improve Transit Division operations. This section presents some background on Transit Division financial operations, and an analysis of the budget process, then addresses each of the above issues in turn.

The finance and budgeting functions for the PTF are dispersed throughout the Transit Division; some are located in other divisions of the Department of Transportation (DOT). We find that this decentralized management structure has been useful for controlling the operating budget, but has other shortcomings that warrant centralization of most finance and budget functions. We recommend that a new section be created within the Transit Division, at the direction of a manager. This position would be responsible for ensuring that PTF resources are utilized in an effective manner, and would provide an independent voice on the future allocation of PTF resources.

BACKGROUND

Finance and budgeting for the Public Transportation Fund (PTF) is a decentralized process, coordinated by a two-person staff in the Transit Division who report to the General Manager. PTF annual expenditures and revenues are substantial — approximately $535 million in 1999, collectively accounting for about 20% of the operating budget and 47% of the capital budget for the entire County. The chief question about this arrangement is whether the decentralized management structure provides adequate control over the PTF budget.

Finance and budgeting functions for the PTF can generally be said to consist of seven activities: (i) maintenance of the financial plan; (ii) development of the operating budget; (iii) development of the capital budget; (iv) budget monitoring; (v) grants management; (vi) accounts payable and receivable; and (vii) management of the annual financial audit. Each activity may involve staff from the various sections of the Transit Division, as well as other divisions within the Department of Transportation, the County Department of Finance, and the Office of Budget. A brief description of each activity is provided below.

FINANCIAL PLAN

The financial plan is maintained solely by the Finance & Budget (F&B) staff in the General Manager's office. This plan is a six-year forecast of sources and uses of funds, and is updated quarterly with the budget status report submitted to the

Office of Budget. The principal elements of the financial plan were addressed in some detail in the first two sections of this chapter. The effort needed to maintain the plan is small compared to other elements of the finance and budgeting process, but its long-run implications are considerable — the financial plan is a primary determinant of resource allocation and the capacity to implement new services.

F&B staff are very knowledgeable of the PTF financial structure and its revenue sources. They rely on input from other sections of the Transit Division to prepare forecasts of operating costs, capital costs, and grant funds. Thus, the reliability of the financial forecast is dependent on the quality of these inputs.

OPERATING BUDGET

The operating budget is developed primarily by budget analysts in each section of the Transit Division, and by other divisions within the DOT. This process has two components: (i) the "proposed status quo" budget (or PSQ); and (ii) decision packages which add to or subtract from the PSQ. The PSQ is based on current, annualized service levels and staffing that are carried forward to the next fiscal year, with adjustments for cost inflation as specified by Office of Budget. The decision packages are the main focus of the budget analysts in each section, as these present economies in existing programs, or additional staffing and expenses for new programs, for consideration by the Executive and Council. During this process, the Division's B&F staff focus on the financial capacity of the PTF to implement new programs, the development of goals and objectives to guide the budget process, review of decision packages, service level agreements (SLAs) which specify costs of services purchased from other County departments, and assembling the initial budget for transmittal to the Executive. Office of Budget's involvement focuses on the PSQ and the financial plan. Their attention to decision packages is focused mainly on items of potential concern to the Executive. Office of Budget has indicated that the Transit Division submits a balanced budget that is supported by good analysis.

CAPITAL BUDGET

The capital budget is developed by project managers, who for the most part report to a section manager having operating responsibility for the project, once completed. For example, fleet acquisition is managed by Vehicle Maintenance, and operating facilities projects are managed by Power & Facilities. However, there are some exceptions. Passenger facilities projects are primarily in the domain of Service Development; some park & ride projects are managed by the DOT's Transportation Planning Division. Also, transit oriented development projects are managed by the DOT's Community & Administrative Services Division. F&B staff are involved only in reviewing new capital project requests that emerge from within the Division; there is no explicit review of already-approved capital projects. The capital budget may receive Office of Budget attention on topical issues.

BUDGET MONITORING

Budget monitoring is performed by F&B staff, the budget analysts in each section of the Transit Division, and Office of Budget. The primary mechanism for the Transit Division's review is the monthly financial report for the operating and capital budgets. The Office of Budget review is based on the quarterly budget status reports provided by the DOT Director's office. These reports cover all enterprise funds within the DOT, and are primarily a compilation of reports developed by the fund managers (e.g., the Transit Division F&B staff prepare the quarterly report for the PTF). Budget variances in excess of 5% require a supporting analysis. The General Manager's Quarterly Management Report, which follows the quarterly report to Office of Budget, is the Division's official record with respect to operations, capital programs, and performance measures. In all these reports, it is generally acknowledged that substantially greater attention is given to the operating budget than the capital budget.

GRANTS MANAGEMENT

Responsibility for grants management is dispersed. Acquisition of new grants is primarily the responsibility of the DOT Community & Administrative Services Division, although project managers may identify and recommend project-specific grants. Grants accounting and reporting is managed by the DOT Transportation Planning Division, with input from project managers of all grant-funded projects. F&B staff in the Transit Division are involved primarily to track the total grant funds and short-term draws against existing grants.

ACCOUNTS PAYABLE AND RECEIVABLE

The A/P function is handled primarily by the County Department of Finance, and requires frequent liaison with originators of requests for payment to vendors. F&B staff may intercede in this process to expedite payments if delayed. The Finance Department also has primary responsibility for tracking A/R; these accounts are comparatively fewer in number than for A/P.

MANAGEMENT OF THE FINANCIAL AUDIT

The PTF is audited annually by an external auditor, who is also responsible for preparing the financial statements to accompany the National Transit Database submittal (generally known as the Section 15 report). This audit is managed by the County Department of Finance. F&B staff in the Transit Division have an arm's length involvement in this process. As noted in chapter 5, there have been inconsistencies year-to-year in the allocation of costs to functions (e.g., administration) and to modes (e.g., motor bus), which suggests that closer involvement of Division staff is advisable. Alternatively, the Finance Department could reconcile the audited financial statements to the NTD submittal.

In summary, financial management of the PTF, though vested in the Transit Division, involves many participants. The F&B staff are involved in most of these activities, but have exclusive domain over financial planning only.

RESULTS OF THE CURRENT FINANCE AND BUDGET PROCESS

We have noted earlier in this chapter that variances in the operating budget have been fairly small, while annual capital expenditures variances have been comparatively large. Given that the capital budget was examined in depth in the preceding section, the narrative which follows focuses on the development of the operating budget. It provides: (i) an overview of net increases in the operating budget since 1996; and (ii) features of the budget process that affect its utility for critically reviewing the effectiveness of resource allocation policies.

COMPOSITION OF ANNUAL AND CUMULATIVE INCREASES

Since 1996, the Transit Division's operating budget has increased, on average, by approximately 9% per year, for a total increase of $76 million over the three years. Expansion of service (bus, van, and paratransit) accounts for the largest share – 42 % — of the total increase. Approximately 42% of the increase derives from so-called "status quo" increases, comprising both initial status quo (ISQ) and proposed status quo (PSQ) increases. The remaining 18% of the net increase derives from other sources of increased spending. A summary of the budget increases attributable to each of these categories is presented in Exhibit 6.19 (page 6-48).

We analyzed these contributions to the budget to assess the effectiveness of budget controls.

Service Expansions

For the purposes of this analysis, service expansions are defined as that portion of the net increase that is attributable to new service provided by bus and vans, vanpools, and paratransit vehicles. In addition, carryforward service, new contracted service, service and customer support related to the provision of all new service, and contingency fleet are included under the category of "new service." Although service expansions account for an average of 40 percent of the net budget increase since 1996, this percentage figure varies significantly from year to year. From 1997 to 1998, for example, 60 percent of the net increase in the operating budget was attributable to new service. But from 1998 to 1999, just 18 percent of the net increase in the operating budget was attributable to new service.

The portion of the increase that is attributable to new service can also change significantly as the budget advances from a proposal to an adopted budget. For example, in 1997, the Executive's proposed budget called for a $10.1 million increase attributable to new service. The Council budgeted an additional $3.2

Exhibit 6.19:
King County Transit Division (KCTD) Adopted Operating Budgets, Composition of Annual Increases, 1997-1999
all dollars in thousands

Total Budget	1997	1998	1999
	282,663	305,843	328,889
Increases	**1996-1997**	**1997-1998**	**1998-1999**
Net increase	29,608	23,180	23,046
Status quo adjustments	9,248	2,568	18,225
Net add	20,360	20,612	4,821
Central rate adjustments	161	3,128	(1,975)
Service changes	13,328	14,096	4,248
Other	6,871	3,388	2,548

total change 1996-1999	percent 1996-1999
75,834	
30,041	40%
1,314	2%
31,672	42%
12,807	17%
75,834	100%

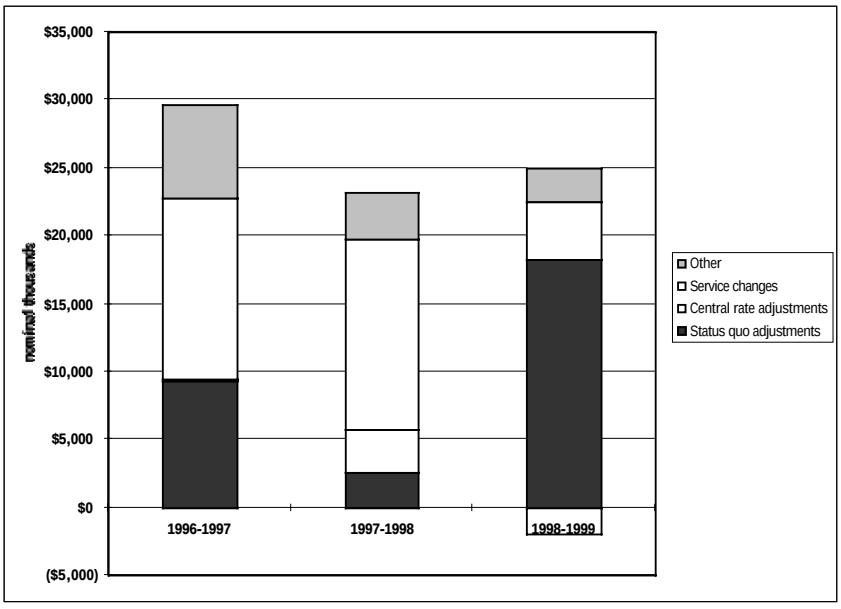
Definitions

"Net increase" refers to the net change from a given year to a following year.

"Net add" refers to that portion of the net increase that exceeds a proposed status quo or initial status quo (PSQ or ISQ) increase.

"Service changes" refers to that portion of "net add" that is attributable to expansion of service. Expenses attributed to this category include carryforward service, new bus and van service, vanpool, paratransit, contracted service, service and customer support, and contingency fleet.

"Other" refers to all other expenses or credits comprising "net add." It includes such items as subarea partnerships, route promotion, commute trip reduction incentives, various executive initiatives and council changes, utility and tax increases not already reflected in the PSQ, and an array of technical adjustments.



million (for a total of $13.3 million) for new service. A similar pattern repeated in 1998, with an $11.8 million Executive proposal for new service additions growing to $14.1 million in the Council-adopted budget.

Status Quo Increases

A large portion of the annual net increase in the Transit Division's operating budget derives from so-called "status quo" increases. The initial status quo, or ISQ, builds on the adopted budget for the prior year by updating it for salaries and positions already entered into the Division's payroll system. The King County Budget Office, located within the Office of the Executive, controls the development of the ISQ, although the office receives input from the Transit Division. Development of the ISQ, which in 1998 and 1999 accounted for 2 percent and 18 percent, respectively, of the total status quo increase, is considered to be largely automatic. The proposed status quo, or PSQ, builds on the ISQ by adjusting it for inflation, utility rates, certain changes to central rates, annualizations, and one-time items. As with the ISQ, the Budget Office reviews and enters the PSQ changes on the basis of input from the Transit Division. In contrast to the ISQ, development of the PSQ is considered to be less "automatic," in that adjustments are made manually and presumably with greater application of analytic judgment.

Other Increases

The remainder of the net increase in the Transit Division's annual operating budget is comprised of "other" expenses. This catch-all category includes adjustments to central rates that are not already captured in the PSQ. It also includes expenditures associated with route promotion, operating subsidies known as subarea partnerships, a variety of executive initiatives, utility and tax increase not already reflected in the PSQ, and an array of technical adjustments. Generally speaking, the majority of these additions are added prior to the Executive's submission of the proposed budget to the Council, although the Council usually makes a few adjustments to the amount budgeted for "other" expenses.

As with service changes, the portion of the annual net increase attributable to "other expenses" can vary widely from year to year. In 1997 and 1998, for example, "other expenses" accounted for 24 percent and 28 percent of the net increase, respectively. But in 1999, such expenses accounted for just 2 percent of the net increase. Note, however, that 1999 was probably atypical, in that a full 80 percent of the net increase derived from status quo increases. This reflects the annualization of large service increases in the last half of 1998.

ANNUAL BUDGET PROCESS

Staff from the Office of Budget informed us that the Transit Division plays a more active role in the development of its annual budget submission to the King County Council than is the case for most other divisions of King County's various executive

departments. Although the Department of Transportation and the King County Executive alter the Transit Division's request each year, including the addition of all central rate adjustments, the overall changes effected through departmental and executive review have been minimal since 1996.

Level Of Detail Declines As Budget Progresses

Information available to support or justify the executive's proposed budget items becomes progressively less detailed as the proposal advances through the budgetary process. Changes requested by the Department of Transportation or by the Executive's Office of Budget appear without explanation. Unexplained changes can include, for example, additions of new spending items and deletion of formerly proposed items. Furthermore, the Executive's Proposed budget does not include any support for the central rate adjustments, which can account for as much as 13% of the annual net increase (see, for example, 1998). The lack of supporting material is easily explained by the shortage of time between completion of the Transit Division proposal and submission of the Executive's Proposed budget to the Council; the Executive's Office of Budget has only six weeks in which to review and adjust the Transit Division's proposal. This timetable does not allow for generation of new narrative, nor does it permit the Transit Division itself to update its original narrative to reflect the revised budget that is ultimately submitted to the Council. Regardless of such reasons for the declining level of detail, Council staff note that the lack of supporting narrative in the executive's proposal and the tendency for conditions to change markedly, such that the detail in the Division's proposal is out of date, together compromise Council staff's ability to understand precisely what is being proposed.

The lack of detail in the written proposal is partially mitigated by the Transit Division's strong support to Council staff. Council staff report that they are pleased by the cooperation they receive from the Transit Division and the quality of information they receive through briefings and informal communications. These communications help to reconcile unexplained discrepancies between the original documentation prepared by the Division and the ultimate Executive proposal, but consume time that could otherwise be used to address broader analytic questions. Moreover, the reconciliation appears in no written form, such that the only repository of information conveyed in those meetings is the collective memory of the individuals who happened to participate.

Required Categories And Overall Structure Restrict Budget's Utility As A Policy-Making Tool

Even when supporting detail is available, it can be difficult to translate the various line items into a story that can support the development of a strategy for allocating resources. Part of the difficulty stems from the necessity of fitting individual line items into a fixed set of five categories that are predetermined by the County's

budget procedures. These categories — mandatory adds, executive initiatives, revenue backed proposals, technical adjustments, and central rate adjustments – are not especially descriptive when one seeks to answer programmatic questions. For example, a simple question exploring the share of budget allocated to actual transit service versus other uses requires one to scan all categories for line items that appear, by virtue of their names, to indicate an expansion of service.

It is also difficult to use the Executive's budget proposal to answer policy questions because virtually all detail provided in the budget document concerns the composition of annual increase (or decrease) from the prior year's level. Virtually no attention is given to the composition of the base upon which this increase is built, nor to the initial and proposed status quo increases, which account for about half of the net increase from year to year. This is standard practice for the entire County budget.

Finally, the budget documents are largely silent on the relationship between the operating budget and capital investments. This is because there is no explicit link between the two budget documents, and therefore there is no easy way to use the budgets to answer questions concerning the extent to which the Division is recommending an operating budget that ensures the efficient use of its current and planned capital assets.

NEED TO AUGMENT AND IMPROVE FINANCE OPERATIONS

Although results have been favorable with respect to the operating budget, as evidenced by small budget variances, the County would benefit from allocating more resources to financial control of the PTF.

There are four areas in which additional effort would produce favorable results:

- Capital budget development and monitoring — There needs to be an independent review of capital project budgets to ensure that a project's objectives are reasonable and cost effective, that its anticipated expenditures are supportable, and that – once complete – it accomplished its intended purpose. This would improve the accuracy of the financial plan, and would help ensure that capital investments are cost effective. This level of review and monitoring does not exist at present.

- Capital grants management — The institutional complexity of transit capital grants has increased dramatically in the past several years. Part of this is due to changes in the structure of Federal and State programs, part is due to grant funding needs of Sound Transit's construction program. This complexity requires the County to take a very thoughtful approach to the identification and pursuit of grant funds, and – once acquired – to ensure the grant funds are drawn when anticipated.

The dispersed responsibility that now exists for managing this important fiscal asset works against the development of a cohesive strategy.

- Stronger programmatic focus for the budget — The current budget process focuses on the activities of each section within the Transit Division. This has yielded apparently beneficial results. There is, however, little visibility below the system or modal level of detail. An emphasis on markets, subareas, or service strategies would provide the Council and Executive with better information on the cost and effectiveness of transit investments, and would allow better-informed policy decisions to be made.

- Improved communications with Council and staff — Communications between the Transit Division and Council appear to work well at the committee level, and it has been observed that Council members are well-informed about the PTF budget. However, this process could be improved, particularly with respect to Council staff review of the budget, if more effort were expended on making the budget and financial plan a communications tool. The current documentation is finely detailed, but does not lend itself to rapid assimilation, nor does it tie to policy directives (e.g., the six-year plan).

These improvements suggest that some centralization of finance operations is advisable, and consequently that organization changes may be necessary. Two general options — relocating PTF financial functions to the DOT administration, and creating an expanded finance and budget role within the Transit Division, are explored below.

RELOCATION OF TRANSIT DIVISION FINANCE FUNCTIONS TO THE DOT

The scope of work for this audit requested our opinion as to whether the Transit Division finance functions should be consolidated with those of the DOT.

The DOT's budget and finance functions currently have very little interaction with the F&B functions within the Transit Division. The primary involvement by the DOT appears to be in reviewing the Division's budget submittal, and in assembling the quarterly budget status reports and forwarding these to the Office of Budget. The DOT is not actively engaged in financial control of the PTF.

The PTF budget is complex because it is large and has many components. In order to effectively develop and control the budget, it is necessary to be familiar with daily operations. Given the rather distant nature of the DOT's current involvement in managing the PTF, there is no apparent benefit to relocating the Division's finance functions.

NEED FOR A FINANCE MANAGER

The scope of work for this audit requested our opinion as to whether the addition of a Finance Manager position would improve Transit Division financial operations.

We believe a Finance Manager position is warranted. The breadth and complexity of the PTF require the presence of a dedicated manager, who is at parity with others who manage expenditures against the fund.

This position would be responsible for ensuring that PTF resources are utilized in an effective manner, and would provide an independent voice on the future allocation of PTF resources. The Finance Manager should have authority over the finance and budget activities noted earlier in this chapter, and should represent the Division in any discussions regarding financial policy.

CONCLUSIONS: FINANCE AND BUDGETING

The current allocation of responsibilities for the finance and budget process has both strengths and weaknesses. The decentralized budget process creates a sense of ownership for the operating budget by each of the sections of the Transit Division. This, coupled with the fairly long tenure of the management team, has led to very good operating budget performance. Other aspects of the finance and budget process need improvement, however. Evidence for these improvements include substantial variances in planned versus actual capital expenditures, related variances on capital grant funds, dispersed responsibility for capital grants, dispersed strategic planning activities, and lack of resources for independent review of capital and operating programs.

RECOMMENDATIONS: FINANCE AND BUDGETING

6.9 *Financial planning and budget functions should be consolidated in a single section within the Transit Division, under the direction of a manager.* This section should be responsible for financial planning, budgeting, capital grants management, capital program review and evaluation, and identifying grant funding priorities. Grant acquisition activities (e.g., lobbying or grant applications) could still be carried out elsewhere, but at the direction of the new Financial Planning and Budget section. This section should also take the lead in developing the Division's annual business plan, and coordinating strategic planning activities of the Division. Finally, this section should be consulted about any changes to the account structure of the PTF, and should participate in the annual audit.

6.10 *The new Financial Planning and Budget section should develop a new format for the annual operating and capital budget that links expenditures to the Six-Year Plan.* This format should promote the visibility of services, costs, ridership, and other information as needed to support the evaluation of service strategies adopted with the plan.

6.11 *Grant administration activities should be relocated to this section from the DOT's Transportation Planning Division.* The new financial planning and budget section should have control over grant accounting and billing, since capital grants are a material source of funds for transit capital programs. Grant administration had been placed in Transportation Planning because of perceived economies in processing transit and roads grants in a single location. In fact, the sources of grant funds are quite different, and transit grant funds predominate.

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INTERNAL CONTROLS SYSTEM AND PERFORMANCE MONITORING

This part of the audit addressed: (i) how controls help achieve stated goals, while providing adequate information to managers for policy and budget determination; (ii) performance controls and what they are intended to measure for each program; and (iii) control information and how the data are applied to program evaluation, improvement, and reporting. This section presents some background on the Transit Division's internal controls and performance monitoring system, and then addresses each of the above issues in turn.

The Transit Division's system of internal controls provides a consistent basis for monitoring key aspects of its operating programs, including year-to-date performance against annual performance targets. Nonetheless, there are several areas where improvements are warranted. These include: (i) providing explicit linkage to the Six-Year Plan; (ii) reporting qualitative measures of performance in a planned versus actual format, rather than simply reporting actions accomplished; and (iii) expanding the range of performance measures used by senior management in their quarterly performance assessment. Recommendations are provided at the close of this section.

BACKGROUND

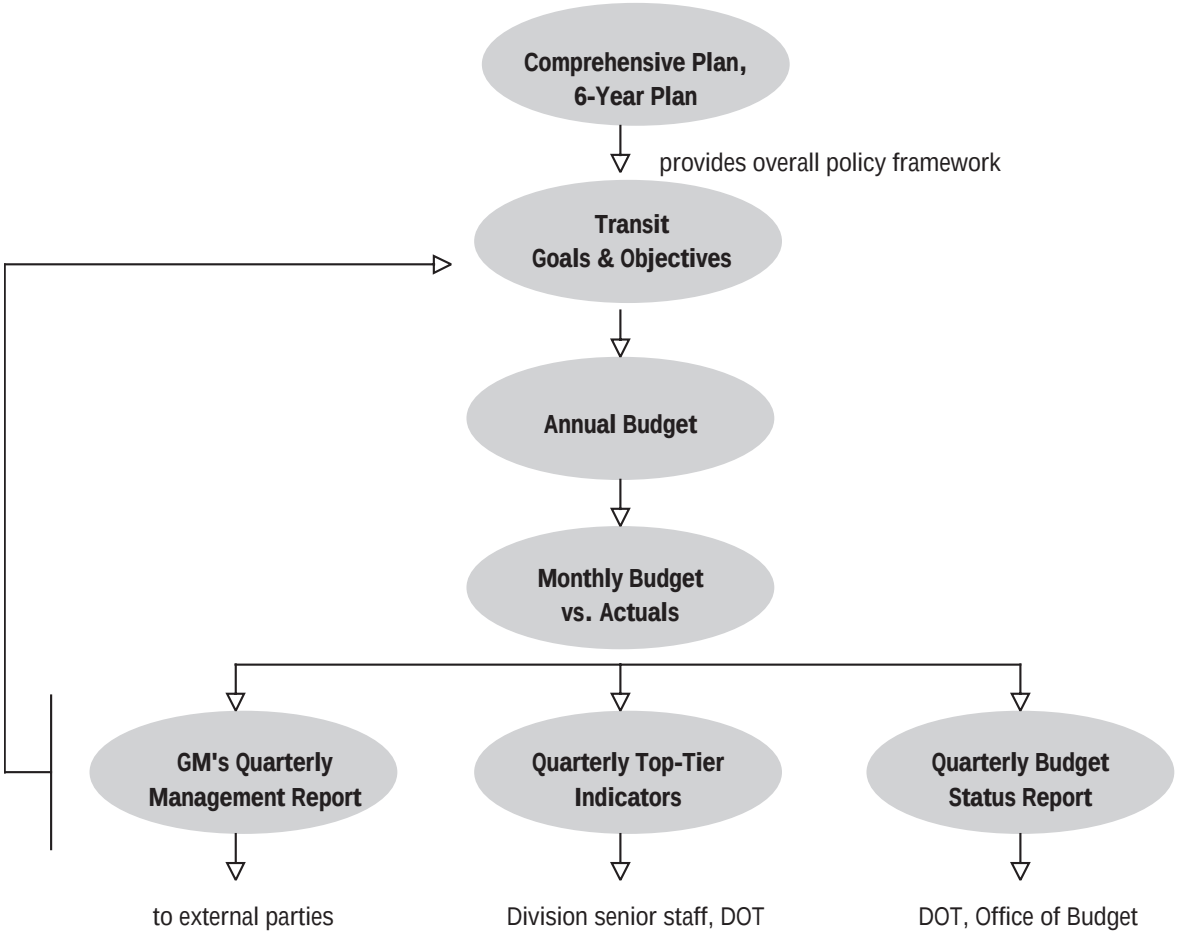
Internal controls and performance monitoring refers to the systems that are used to track progress against the adopted transit plan, and to provide a basis for modifying the plan based on actual results.

The Six-Year Plan, adopted in December 1995, set forth a series of strategies to guide the modification of existing service, and the addition of new service, for the period 1996 through 2001. These strategies form the basis for the annual operating budget and the capital improvement program (CIP).

The Transit Division's system of internal controls is portrayed in Exhibit 6.20 (page 6-56). The system devolves from the policy direction established in the Six-Year Plan. Annual goals and objectives, developed as part of the budget process, provide more specific direction for implementation of the SYP, as well as non-SYP actions. Although financial results are monitored monthly, quarterly reports are the focus of monitoring efforts. These quarterly reviews are the basic feedback mechanism for revising the current annual budget and planning for the subsequent year's budget.

Each element of the internal controls system is briefly described below.

Exhibit 6.20:
Organization of Transit Internal Controls



GOALS, OBJECTIVES, AND WORKPLANS

At the commencement of the annual budget process, the Transit Division develops workplans for a set of goals and objectives, the latter being integrated with those of the Department of Transportation (DOT) as a whole.

For 1999, the Division's goals were to: (i) provide quality products and services; (ii) be an active regional partner; and (iii) be an outstanding place to work. Each of these goals devolve to a series of broad and specific objectives that are summarized in Exhibit 6.21 (page 6-57). The Division prepares a series of actions to be taken in the coming year to achieve each of these objectives. This document, known as 'Workplan Examples by Objective," is the primary tool for describing what is to be accomplished from a programmatic standpoint.

Exhibit 6.21:
Transit Division Goals and Objectives

Goal: Provide quality products and services

Plan, contruct, and operate reliable, safe, and convenient transportation services that provide alternatives to driving alone.

Objective 1: Community and customer responsiveness.

Continuously improve the quality of products and services to attract new riders and retain existing ones.

Supporting objectives:

- Maintain the reliability of products, services, and infrastructure.
- Enhance and measure the security of passengers and employees and their satisfaction with security.
- Increase regional mobility through implementation of the Six-Year Plan.
- Coordinate operating and capital programs to optimize services.

Objective 2: Ensure financial well-being.

Ensure financial integrity of public transportation programs.

Supporting objectives:

- Effectively manage the use of technology to promote operational efficiencies and improve service effectiveness.
- Ensure adequate farebox revenues and pursure other revenue sources to support the Transit Division mission.
- Actively participate in streamlining processes and procedures.
- Use public funds responsibly, efficiently, and equitably among the three subareas.

Objective 3: Increase ridership

Increase use of bus, paratransit, and rideshare services.

Supporting objectives:

- Market new and revised services to assure targeted ridership increases.

Goal: Be an active regional partner

Work with others to develop and carry out integrated plans for transportation, land use, and growth management.

Objective 4: Forge regional partnerships

Strengthen public and private partnerships to provide enhanced services and use resources more efficiently.

Objective 5: Implement integrated multimodal plans

Incorporate a multimodal and regional perspective in implementing transportation plans.

Supporting objectives:

- Partner in Six-Year Plan annual updates, regional, and community plans.
- Work with partners in region on RTA/Sound Move service implementation.

Objective 6: Improve environmental quality

Improve environmental quality through actions supporting clean air, clean water, noise reduction, adopted land use plans, and regional mobility

Goal: Be an outstanding place to work

Objective 7: Improve the organization's culture

Continue to improve the organization's culture, emphasizing customer orientation, collaboration, continuous improvement, innovation, and dive

Supporting objectives:

- Work cooperatively with eachother, unions, and other stakeholders.
- Develop a diverse work force and encourage all people to achieve their full potential.
- Ensure that all employees are treated fairly, consistently, and with respect.
- Communicate changing roles and procedures to employees in a timely manner.
- Strengthen working relationships within the department and government.
- Provide a safe work environment and promote safe work practices.
- Provide for timely, consistent, and clear two-way communication tailored to the individual communities and businesses the Division serves.

MONTHLY BUDGET MONITORING

Monthly budget monitoring is performed by budget analysts in each section of the Transit Division, with overall monitoring and control exercised by the Finance & budget staff within the General Manager's office. Month-end reports generated by the financial system are the primary basis of information for monthly budget monitoring. These include low-level operating expenditures by unit (i.e., the organizational unit within a section) and capital expenditures by project.

QUARTERLY BUDGET STATUS REPORT

Each quarter, the Finance & Budget staff prepare the quarterly budget status report for the Public Transportation Fund. This report provides a comparison of actual operating expenditures to the quarterly allotment plan (i.e., the quarterly budget). Variances in excess of 5% require an explanation. It also provides a summary of the annual cash flow, updated to reflect any changes that have occurred or are projected to occur since the time the budget was adopted. This format is similar to that of the financial plan summary that was described in *Financial Plan Assumptions,* earlier in this chapter. This quarterly update is forwarded to the DOT Director's office, combined with similar reports for other funds in the DOT, and transmitted to the Office of Budget. The report is usually transmitted about three weeks after the close of a quarter.

QUARTERLY TOP-TIER PERFORMANCE INDICATORS

This report is distributed to senior management of the Transit Division. It lists fifteen indicators of transit operating performance, compares the current quarter to the same quarter for the prior year, and lists the annual target for the current year. The report includes comments for each indicator, and highlights whether performance is above or below the target.

The fifteen indicators listed on this report include: bus passenger trips; vanpool passenger trips; complaints per million trips; service requests per million trips; platform hours operated; base service cancellations; in-service cancellations; on-time performance; percent of articulated bus assignments filled; miles between trouble calls; traffic accidents per million revenue miles; operator and passenger injury assaults; operations revenue per passenger trip; and operating expenditures.

GENERAL MANAGER'S QUARTERLY MANAGEMENT REPORT

This report is the official record of Transit Division revenues, expenditures, and performance. It is prepared by the Management Information and Transit Technology section, and is distributed within the County and to external parties. It is produced every quarter; values are accumulated on a year-to-date basis and com-

pared to the same period for the prior year. The fourth quarter report thus serves as the official report for the year.

The report focuses primarily on operating performance, expenditures, and revenues. Descriptions and explanations are provided for ridership, ridematch services, the operating revenue to operating expense (OR/OE) ratio, customer services, safety, and security. The report also provide highlights of the capital program and other areas of topical interest — for example, regional fare agreements, the employer subsidy program, vanpools, new services, and partnerships with other agencies. Details are provided on PTF revenues, PTF operating expenditures, capital expenditures by program, operating performance indicators, workforce (headcount and FTEs), fleet information, facilities, and fares. Annual operating and financial statistics for the past ten years are also provided in the report.

OTHER ELEMENTS OF THE INTERNAL CONTROL SYSTEM

In addition to the controls stated above, individual section managers have implemented control systems of their own to more closely track performance that is specific to their section. These systems, some of which are substantial (e.g., Vehicle Maintenance, Paratransit) were not reviewed as our emphasis was on Division-wide performance.

Also, the Department of Transportation proposed in September, 1998 a series of performance measures for the department as a whole. These were developed pursuant to the County's Performance Measurement Ordinance. The DOT performance measures include eleven that are specific to transit operations. These are also included in the General Manager's Quarterly Management Report. Accordingly, we did not address the DOT's performance measures separately.

LINKAGE BETWEEN CONTROLS AND GOALS & OBJECTIVES

The internal controls system described above provides fairly good linkage to the Division's goals and objectives. Also, through the quarterly monitoring process, progress against annual targets is addressed in a systematic way. Nonetheless, some areas for improvement exist.

The linkage between controls, goals, and objectives is established during the annual budget process. Performance targets are established in two ways: (i) annual targets are established for quantitative measures of performance; and (ii) work plans, with a particular outcome, are established to support each of the Division's objectives.

The Transit Division adopts annual targets for quantitative measures of performance. Progress against these performance measures is monitored through the Top-Tier Indicators Report (see the description above for contents), and the General Manager's Quarterly Management Report. These performance targets are moni-

tored by comparing the current year-to-date performance to the same period of the prior year, and to the current year annual target. Information systems to support this process are well-established.

The Transit Division also adopts work plans that are linked explicitly to the Division's goals and objectives. These were described above in the "Goals, Objectives, and Work Plans" section. Actions accomplished in support of each objective are tallied quarterly, in an internal Division report.

The reporting process provides a systematic means for evaluating system-wide and modal (i.e., bus, vanpool, paratransit) operating performance. Elements of the reporting system that could be improved are as follows:

- Linkage to the Six-Year Plan. The Division's reporting systems make scant reference to the six-year plan. For example, though the plan had a strong geographic (e.g., three subareas) and service type (e.g., regional, local, community) emphasis, no performance statistics are reported at this level of detail. Also, progress against implementing the elements of the six-year plan is not highlighted in the reports. If the six-year plan is truly the policy basis for much of the Division's programs, the reporting structure needs to provide feedback on how actual outcomes compare to the plan's vision of the future. The current systems place too much emphasis on the annual budget process, and not enough on evaluating the effectiveness of the six-year plan strategies.

- Improve accountability for project- or work plan-specific action items. The Goals, Objectives, and Work Plans described earlier provide a good organizing element for the budget. In the documents made available to us, the work plans had no organizational identity (i.e., did not define the responsible section) for a particular work item. The quarterly reporting of results lists actions accomplished, but does not tie these actions to the work plan items developed as part of the budget. Thus, there is no basis for determining if the actions were according to plan or not. The same comment can be applied to capital project reporting. The qualitative comments about the projects focus on what was accomplished, rather than planned versus actual activity. All the qualitative reporting should include: (i) the identity of the responsible party; (ii) planned activity; (iii) results to date; and (iv) reasons for deviation from plan; and (v) recommendations to revise schedule and cost if actual activity has lagged the forecast.

- Increase the visibility of capital project status. The reporting systems focus primarily on operating costs and operating results. Capital program expenditures are mentioned only in the General Manager's

Quarterly Report. There is no reporting of progress against implementation of the six-year plan capital projects. As noted earlier, variances on capital project expenditures are significant, and deserve greater visibility. Generally, the reporting of capital project status should follow the model described above for project-specific action items. Additional recommendations on capital project reporting were presented in the section titled *Capital Improvement Program*.

Improvements in the areas noted above would provide a clearer picture on the Division's progress toward implementing its programs, while requiring little additional information to be collected.

PROGRAMMATIC PERFORMANCE CONTROLS

Performance controls are established for each of the three major operating programs of the Transit Division — bus, vanpools, and paratransit. The primary controls that are monitored by the General Manager and senior staff of the Division are reported in the Top Tier Performance Indicators report, which is generated quarterly. These indicators are presented in Exhibit 6.22 (page 6-62). This report is generated prior to the General Manager's Quarterly Management Report, and are used by senior staff to monitor performance.

Annual targets are established for all indicators except service cancellations, additional service requests, and articulated coach assignments. Service cancellations are typically very low (e.g., less than 0.1%). This indicator is monitored closely, and has historically been very low. The objective is zero trips cancelled, but it is not a formal target. Requests for additional service is included as an information item only. Articulated coach assignments averaged about 95% of schedule in 1998.

These performance controls are intended to reflect the overall functioning of the system, and do focus on key measures of performance: service consumed, complaints, performance against budget, mechanical reliability, service reliability, and safety.

The performance indicators provide a fairly comprehensive view of bus operations. Other indicators that can be derived from these, but would be useful to present in the report, include: (i) cost per platform hour; (ii) the OR/OE ratio; and (iii) passenger trips per hour. These are industry-standard measures. Also, the first two are included in the Division's financial policies. Although these measures are reported in the General Manager's Quarterly Management Report, it would be advisable for them to be part of the regular senior staff review process.

Exhibit 6.22:
Primary Performance Controls from "Top Tier Performance Indicators" report

Type of Service	Performance Measure	Used as an indicator of:
Bus	Bus Passenger Trips	Service consumption
	Complaints per million trips	Customer concerns, ability to satisfy
	Service requests per million trips	Characteristics of requests for new service or service changes
	Platform hours operated	Performance against budget
	% of scheduled trips cancelled at base	Service canceled due to unavailbility of driver or equipment
	% of scheduled trips cancelled in-service	Service canceled in-route
	Articulated assignments filled	Availability of articulated buses (compared to schedule)
	Miles between trouble calls	Mechanical reliability
	Traffic accidents per million revenue miles	Safety
	Operator and passenger injury assaults	Safety
	Operations revenue per passenger trip	Performance against budget
	Operating expenditures	Performance against budget
Vanpool	Passenger trips	Service consumption, performance against budget
Paratransit	Passenger trips	Service consumption, performance against budget

Comparatively little information is reported in the Top Tier Indicators for paratransit and vanpool. The report should be expanded to include high-level indicators for these two programs. Performance indicators for paratransit, which is now a substantial operation unto itself, should parallel those for bus services. Performance indicators for vanpool, which is a characteristically different operation, should focus on new vanpools formed, current unmet demand for vanpools, and vanpool cost recovery.

Exhibit 6.23:
Trends in Annual Targets for Key Performance Indicators

Type of Service	Performance Measure	1997 Target	1997 Actual	1998 Target
Bus	Bus Passenger Trips	78,800,000	79,054,737	81,000,000
	Complaints per million trips	70.00	47.50	46.00
	Service requests per million trips		56.70	
	Platform hours operated	3,032,158	3,039,110	3,291,000
	% of scheduled trips cancelled at base		0.02%	
	% of scheduled trips cancelled in-service		0.26%	
	Articulated assignments filled		94.30%	
	Miles between trouble calls	3,475.0	3,456.0	3,553.0
	Traffic accidents per million revenue miles	31.60	36.40	35.40
	Operator and passenger injury assaults	30.00	20.00	26.00
	Operations revenue per passenger trip	$0.76	$0.76	$0.82
	Operating expenditures	$282,662,984	$270,845,448	$305,843,415
Vanpool	Passenger trips	2,635,000	2,840,892	3,278,421
Paratransit	Passenger trips	998,000	939,641	1,040,000

PROGRAM EVALUATION, IMPROVEMENT AND REPORTING

The key performance indicators are used as a basis for continuous improvement. Trends in these indicators for 1997 (target and actual) and 1998 (target) are presented in Exhibit 6.23 (page 6-63). In each case, the Division plans for small incremental improvements in each of the performance indicators.

CONCLUSIONS: INTERNAL CONTROLS SYSTEM

- The Transit Division's system of internal controls provides a consistent basis for monitoring key aspects of its operating programs, including year-to-date performance against annual performance targets. As noted elsewhere in the audit report, operating performance trends are generally positive. This is a good indication that the controls system is working and is contributing toward performance improvement.

- There are several areas where improvements are warranted. The controls system, in general, should support evaluation of the policies and strategies included in the Six-Year Plan. This would require, at a minimum, geographic and service-specific breakdowns of performance information for bus services, and progress on implementing capital projects. Also, where performance is measured by activities completed, the controls system should designate the organizational responsibility for projects or work plans, and should identify if the actions completed are consistent with a plan, and if not should also specify modifications to the plan or corrective actions that are advisable.

RECOMMENDATIONS: INTERNAL CONTROLS SYSTEM

6.12 *Modify the performance controls system to measure the effectiveness of six-year plan service strategies and to report progress toward implementation of the capital program.* The effectiveness of six-year plan strategies should receive as much attention in the controls system as is currently devoted to measuring progress against annual objectives. This will require a geographic (i.e., subarea) and service-type (i.e., regional, local, community) breakdown of cost, service and ridership information to assess trends in service effectiveness, service efficiency, and cost effectiveness. Implementation of this recommendation will require the Division to develop a methodology that is capable of isolating ridership and service statistics according to these market segments. The effort required to report progress on capital projects is less burdensome, and could be implemented with current resources. It is merely a reporting issue.

6.13 *Modify the Top Tier Indicators report to include additional performance measures for bus, paratransit, and vanpool services.* Performance indicators for bus services should be expanded to include cost per platform hour, the OR/OE ratio, and passengers per platform hour. Paratransit performance indicators, that parallel those for bus services, should likewise be included in the report. Vanpool performance indicators should be expanded to include new vanpools formed, unmet demand for vanpools (e.g., requests on file that could not be filled due to lack of vans), and vanpool cost recovery.

6.14 *All program- or project specific action items should be reported in a planned versus actual format, and should identify the responsible manager.* The Transit Division normally reports actions completed. To be meaningful as a control tool, these reports should indicate if the actions completed are consistent with the adopted workplan, and if lagging the schedule, should note the corrective actions to be taken. The reports should also identify organizational responsibility for the action. These modifications are essential for improving accountability for program- and project-specific actions.

SIX-YEAR PLANNING PROCESS

This part of the audit addressed: (i) the assumptions and methodology for developing and updating the six-year transit development plan (usually referred to as the Six-Year Plan, or SYP); (ii) the extent to which the plan development is guided by County policy, the adopted plans of local jurisdictions and other public transportation providers, Division service objectives, user needs, and merger criteria; and (iii) the advisability of transferring the update of the SYP from the Transportation Planning Division to the Transit Division.

We found that the SYP process should build on the process established by the current plan. The SYP adopted in December, 1995 provided a useful and, ultimately, effective basis for the implementation of new transit service. Some aspects of the plan (e.g., capital program, monitoring plan) have not been well-defined and should receive greater management attention. Although the plan was consistent with that of other jurisdictions and agencies when adopted, it should be updated to reflect the scaled-down regional transit system plan and other changes that have occurred since 1995. The plan update that is now underway should be reconsidered, from both a management and conceptual standpoint. Responsibility for the plan should revert to the Transit Division. The plan should provide a specific description of services and capital projects to be delivered in the next six years.

This section provides some background on the components of the planning process, evaluates the methods and assumptions used for the SYP development and update, and presents our conclusions and recommendations.

BACKGROUND

The six-year planning process includes not just the SYP itself, but also the policy framework within which the plan is developed, and the process being applied now to update the plan. Each element of this process is briefly described below.

COMPREHENSIVE PLAN FOR PUBLIC TRANSPORTATION – LONG RANGE POLICY FRAMEWORK

The *Comprehensive Plan for Public Transportation – Long Range Policy Framework* (LRPF) was adopted in 1993 by the Metro Council to provide the policy foundation for the six-year and annual planning processes. The policies were based on a regional transit plan for 2020 that was integrated with the regional development plan, known as VISION 2020. It was adopted at the conclusion of a four-year regional transit planning process that laid the groundwork for the fixed-guideway transit plan now being implemented by Sound Transit. At the time the LRPF was adopted, bus service expansion was viewed to be rather extensive — an additional one million hours of service by 2010. The LRPF established a subarea planning process, and led to recommendations about the allocation of new service hours according to the population of each subarea.

The LRPF is approaching its sixth anniversary. Although the regional basis for the LRPF (VISION 2020) has not been materially altered, several externalities affecting the LRPF (e.g., local GMA plans, regional transit network) were in their infancy in 1993. The policies should be reviewed by the County in the context of its multimodal transportation vision.

DEVELOPMENT OF THE SIX-YEAR PLAN

The SYP adopted in December, 1995 was the County's first effort at a six-year plan. It was developed primarily by the Service Development section of the Transit Division. The SYP process used the LRPF as a point of departure, and sought to modify Metro's traditional service planning approach to be in accord with the LRPF.

Three objectives of the SYP were drawn from the LRPF: (i) increase access to a broader range of travel destinations using public transportation by reconfiguring existing service, adding new services, and pursuing innovative solutions and partnerships; (ii) target selected non-downtown Seattle employment areas to increase public transportation mode share with a combination of service improvements and transportation demand actions in conjunction with major employers, local jurisdictions, and other agencies; and (iii) regularly evaluate new and existing service performance against established measures of success, and reinvest unsuccessful services consistent with the overall service concept.

The SYP incorporated several features that departed from past practice: (i) a subarea-based planning process; (ii) a change in service orientation to a multiple-hub system; and (iii) strategies to guide the implementation and refinement of the plan. Each of these are briefly described below.

Planning process

The LRPF states that local jurisdictions are to be actively involved in a collaborative process for planning public transportation. The LRPF also established a subarea focus for the allocation of new services. Accordingly, Metro Transit worked extensively with groups of local elected officials from the three subareas during the plan's development. The groups included: (i) the SeaShore Transportation forum; (ii) the Eastside Transportation Partnership (ETP); and (iii) the South County Area Transportation Board (SCATBd). These groups provided input and guidance on subarea needs, goals, and preferences for service, and ensured that transit plans were consistent with local policies and objectives. The groups also evaluate and confirm annual service packages prior to their consideration by the Regional Transit Committee.

Change in service orientation

Prior to adopting the SYP, Metro focused its services on commuter access to downtown Seattle, downtown Bellevue, and the University District. Most routes were structured to offer a one-seat ride to these destinations. The new plan featured

a multidimensional network in which transfers would be more common. Forty transit hubs — points where transfers and service connections would be concentrated — were a central organizing element for this new service orientation. The plan places much more emphasis on suburb-to-suburb travel, which is the fastest-growing transit market.

Strategies

The plan included five sets of strategies that guided the details of the plan: service, capital, implementation, funding, and management. These were intended to serve as a framework for refining the plan as it moved forward.

Several aspects of these strategies were very beneficial in maintaining the focus of the service and operations improvements as the plan was implemented. First, the implementation process identified responsibilities for Division staff, the subarea planning committees, the Regional Transit Committee, and the Council. This clarity of roles helped achieve consensus on the pace of implementation, a critical feature given the high demand for new service, and the unprecedented amount of service to be added. Second, the strategies identified service restructuring priorities and service improvements by corridor. These helped keep the plan focused in light of improving economic conditions. Third, the strategies identified performance targets that were intended to be a reference point for evaluating the plan's effectiveness prior to a major update. These have not yet been rigorously evaluated, but do serve as an important benchmark from a policy standpoint.

Collectively, these features of the plan appear to have been successful in guiding the implementation of new service. A presentation on the status of the plan, made in October, 1998, stated that about 420,000 hours of new service would be implemented by Spring, 1999. This compares to the plan's target of about 354,000 hours. The additional service was financed primarily by higher-than-anticipated tax revenue. The new hours were allocated consistent with the policy adopted in the SYP: Seattle–North King, 35.7% (versus target of 35.8%); South King, 35.7% (versus target of 36%); and East King, 28.6% (versus target of 28.2%).

In contrast to the apparent success of the service implementation program, two other aspects of the plan were less satisfactory. First, the capital program received substantially less scrutiny and direction than did the operating program. The SYP referred to capital program "targets" by element (e.g., passenger facilities, operating facilities), but did not specify a timetable, nor identify clear linkages to the operating program. As noted in earlier in this chapter, progress on the SYP capital program has drifted, and it is unlikely to be fully implemented by 2001. Second, the proposed annual update of the plan was not carried out. In reality, an annual update was a much too ambitious target. Now, however, more than four years have elapsed since the current SYP was in its fact-finding stage, and much has changed. While it is difficult to say whether this delay has been harmful, it does point to a lack of management priority.

ANNUAL TRANSIT DEVELOPMENT PLAN REPORT

The annual Transit Development Plan (TDP) report is a requirement of state law. It is used primarily by the Washington State Department of Transportation (WSDOT) to prepare its annual statewide report on public transportation. The TDP report for King County is prepared by the County DOT's Planning Division.

The TDP update is often confused with the annual update of the SYP noted above. In fact, the TDP update is a separate, though related, reporting process that is analogous to the County's submittal of the annual National Transit Database (NTD) report. Like the NTD report, the TDP report is largely quantitative. It provides the following information to the WSDOT: (i) a description of the current system, which includes much of the information reported in the NTD submittal; (ii) a description and phasing plan for new services and facilities for the current year and next six years; and (iii) an operating and capital financing plan.

The TDP incorporates the service implementation schedule of the SYP, and adopted CIPs. It is not, however, an update of the SYP since it does not include an evaluation of current services, market analysis, or formal adoption (as part of the planning process) by the subarea planning committees.

WORK PLAN FOR UPDATING THE SIX-YEAR PLAN

As noted above, an update of the SYP has languished since 1996. The delay is reported to be a product of differences in opinion among DOT management, the Executive, and the Council as to the methodology for updating the plan. Also during this period, responsibility for the plan update was transferred to the Transportation Planning Division of the DOT. A vacancy existed for the manager of planning and program development, within the Transportation Planning Division, which contributed to a lack of progress on the plan update. In June, 1998, a new manager was hired and a work plan for updating the SYP was prepared.

The work plan for updating the SYP is envisioned to be a collaborative effort, led by the Planning and Program Development section of the Transportation Planning Division. The other participants include the Office of Budget, the Roads Services Division (CIP integration), the DOT Community and Administrative Services Division, several sections of the Transit Division (Service Development, MITT, Design & Construction, Paratransit/Rideshare, and Power & Facilities), and the Long Range Comprehensive Plan section of the Transportation Planning Division. An external working group has also been established, which includes the three subarea planning committees described earlier, the Puget Sound Regional Council, Pierce Transit, Community Transit, Sound Transit, and WSDOT. The overall effort is being managed by the Planning and Development Division of the County DOT.

The objective of this exercise is to recommend transit investments that complement a multi-modal transportation system. A new feature of the analytical approach is the "regional arterial network," or RAN. This includes all the arterials in the County, irrespective of the jurisdiction having ownership or operational responsibility. The heart of this concept is that the County could serve as an integrator of the RAN, since all these roads lay within its boundary, and cross the boundaries of most other jurisdictions (with the exception of WSDOT). The impression is that management of the arterial network is piecemeal, and may be more effective if approached from a County-wide perspective. Transit improvements would be planned to add capacity to and improve the flow of the network, where practical to do so. This approach to allocating transit investment contrasts with the per capita allocation of new service hours used in the current SYP.

The work plan is now in the analysis phase. Near-term products are expected to include a definition of priority needs, and a transit network through 2006. These would be used as a basis for alternatives definition and policy discussion. A draft plan is scheduled to be distributed by Fall, 1999; adoption of the plan is scheduled for Spring, 2000.

METHODS AND ASSUMPTIONS FOR DEVELOPING THE SIX-YEAR PLAN

The current SYP is an operations-oriented plan that reflects considerable discussion of service priorities within each of the planning subareas. Its details were created in a bottom-up fashion, but were also consistent with the top-down policies established in the LRPF.

The results of the plan have been positive. As reported in more detail in chapter 2 of this report, trends in ridership, cost per hour, cost per passenger, and passengers per hour have been favorable, especially in light of the significant (19%) increase in service through 1997. Ridership has increased in excess of the additional service, cost per hour increases have trailed inflation, cost per passenger has been virtually unchanged, and passengers per hour has been fairly constant. Thus, the new service has been absorbed very effectively and efficiently.

The subarea planning process, and the extensive review by the Regional Transit Committee, also ensured that the SYP is consistent with local land use plans.

These results support a conclusion that the methodologies and assumptions on which the current SYP was based were reasonable and fairly accurate.

METHODS AND ASSUMPTIONS FOR UPDATING THE SIX-YEAR PLAN

Our comments on the work plan update for the SYP update reflect our assumption that the SYP should be more strongly oriented to the specifics of service and capital projects than to strategy and policy. The SYP produced practical results because it provided specific direction — capital programs excluded — for several years of

major transit improvements. That type of specificity is valuable to transit operations, and is critical to maintaining control over a widespread operation with many moving parts. In fact, a well-defined SYP should serve as the Transit Division's business plan. Multimodal and land use integration must be considerations in the development of the plan, but should be formulated for a longer timeframe and at a more abstract level of detail. The County's comprehensive planning process, for example, would be a logical candidate for that effort.

The management approach to updating the plan weakens the link between those who would are authorized to prepare the plan and those who are responsible for carrying it out. The lead division (i.e., Transportation Planning) has no implementation responsibility and is organizationally distant from transit operations. The planning effort is being led by relatively new staff who do not have the institutional knowledge of the Transit Division that is necessary to develop a practical and controllable implementation plan that is cognizant of the capacity and intra-divisional coordination required to implement the plan. As noted earlier in this chapter, there are significant management issues related to the SYP that need to be resolved (e.g., CIP management, service appraisal systems). Although Transit Division staff are involved in the SYP development through a matrixed arrangement, this does not constitute a strong commitment by Transit Division management to the implementability or relevance of the eventual plan. Instead, this arrangement introduces the possibility of future disputes about who was responsible for commitments made in the plan, should they not come to pass. Alternatively, the plan may be more conservative than necessary to protect the parties against the risk of error.

Also, the use of a Regional Arterial Network (RAN) as an organizing mechanism for the SYP is questionable, irrespective of its multi-modal planning merits. Consider that: (i) the County has limited jurisdiction over the RAN, owning just 19% of the centerline mileage of urban principal arterials, minor arterials, and collectors in the County; (ii) the RAN concept is in its infancy, no criteria have yet been established to measure its performance or to evaluate trade-offs among multimodal alternatives, and institutional responsibilities for the RAN concept have yet to be agreed on; (iii) transit accounts for very little of the arterial traffic stream; and (iv) the detail required to accurately model the need for transit investment and its effect on traffic flow and safety is beyond current capabilities of the Transportation Planning Division, and would rest on data that need to be supplied by other jurisdictions, for whom there is little apparent benefit to participating in this exercise. We believe the findings from this process may take longer to develop and be less meaningful than can be attained from the planning methods used for the existing SYP, which have already been shown to be effective.

There is no added value at this point in time of having the SYP be developed by the Transportation Planning Division. However, it would be useful to consider transit investment in a multimodal planning context over the long term (e.g., ten to twenty years). That perspective would be appropriate for updating the policy framework on which the current SYP is based — the Comprehensive Plan for Public Transportation, which was adopted by the Metro Council in 1993.

The County's current interest in and vision for transportation services and facilities should be the basis for the transit comprehensive plan — rather than the policies adopted by a defunct legislative body. The comprehensive transit plan should be closely coordinated with land use planning and other pending transportation investments, many of which are outside the County's purview. This is a more logical role for the Transportation Planning Division than the update of the SYP. Clearly, the SYP should be subordinate to the policy direction established in a new transit comprehensive plan. Since it is likely that the development of a County-led transit comprehensive plan would take longer than the SYP update, however, the SYP update would have to be based on current policy and then modified as necessary on its next update cycle.

CONCLUSIONS: SIX-YEAR PLANNING PROCESS

- The SYP adopted in 1995 provided a useful and, ultimately, effective basis for the implementation of new transit service. It is common for ridership to increase only at a third to one-half the rate of an increase in service. Between 1993 and 1997, Metro Transit added 19% more service and achieved 15% more riders. This result may have benefited from external factors, but nonetheless argues in favor of the conclusion that the SYP was a well-reasoned strategy.

- The current effort to update the SYP is built around a concept that is incongruent with a six-year operations and capital plan, though it is not without merit. The ends sought from the SYP update work plan would be better served as part of the County's comprehensive planning process, and could be used to establish a more relevant policy framework for a transit-specific six-year plan. The policy basis for the SYP was developed by another legislative body (i.e., the Metro Council) and may not reflect the County's priorities.

- The SYP should serve as the business plan for transit. A six-year planning horizon is sufficiently long to guide both operating and capital investment for a (predominantly) bus system that is to be complementary to a regional fixed-guideway transit system. Other concerns, such as long-term integration with other transportation facilities and land use, should be addressed outside of the SYP framework.

RECOMMENDATIONS: SIX-YEAR PLANNING PROCESS

6.15 *Focus six-year plan efforts on a business plan for King County Metro Transit.* The SYP should serve as the business plan for transit. The plan should include an evaluation of existing services and emerging markets, describe alternatives for meeting new service needs, and should provide an annual operating and capital plan that serves as a guide for the annual budget. This level of specificity would clarify expectations for what is to be achieved with transit service, and would greatly simplify the discussions with the Council regarding resource allocation. The plan should be updated biannually.

6.16 *Expand the capital program element of the SYP.* The capital program in the current SYP is too vague to be of value as a control tool. The SYP should include a CIP-type listing of projects, noting their expected start and completion dates, and the service improvements or strategies to which they are linked. This will increase accountability for the uses of capital funds, and will provide a more complete basis for evaluating the capacity for capital project implementation. It will also protect against the dilution of capital funds for projects that do not clearly relate to the plan's service strategies.

6.17 *Transfer responsibility for the SYP and annual TDP updates to the Transit Division.* Given that the SYP should serve as the business plan for transit, it follows that responsibility for developing the plan should rest with the Transit Division. The annual TDP report, which is an expression of intent about new services and facilities, should likewise be a responsibility of the Transit Division.

6.18 *Integrate the service evaluation system with the geographic and service-type breakdowns of the six-year plan.* The effectiveness and efficiency of the SYP can be evaluated only if data are available in a suitable format to support the evaluation. The current SYP uses a subarea-service typology to describe its markets and new services. Currently, no statistics are reported in this format. Although the SYP has achieved positive results, there is no visibility of the trends in these markets, nor their comparative effectiveness and efficiency. This type of information is essential to be able to continually refine and critique the service plan.

STRATEGIC PLANNING

This part of the audit addressed: (i) the extent to which the Transit Division is engaged in strategic planning, and the role of strategic planning in the development of the Six-Year Plan (SYP) and Transit Division budget and program assessment; (ii) the role of agency managers in developing transit goals and implementing County directives; and (iii) whether an expanded strategic planning process would have a positive effect on resource allocation. Each of these issues is addressed in turn in the remainder of this section.

Most of the background and analyses needed to support the findings presented in this chapter were provided in chapters addressing other tasks, notably: *Capital Improvement Program*; *Finance and Budgeting*; *Internal Controls and Performance Monitoring;* and *Six-Year Plan Planning Process.*

We found that the County would very likely benefit from an expanded strategic planning effort. The six-year plan should be viewed as the strategic plan and the business plan for the Transit Division — these labels are synonymous. This effort could build on the decentralized planning process already established by the Division, but should be led by a central staff, such as the new Finance & Budget section recommended in the *Finance and Budgeting* section of this chapter.

STRATEGIC PLANNING IN THE TRANSIT DIVISION

Strategic planning is a process of continually refining the products offered by an organization to its markets. The process typically includes the following components:

- assessing the markets to be served;
- assessing externalities that affect the organization's ability to serve its markets;
- assessing existing and anticipated conditions that affect service delivery;
- identifying options for serving markets more effectively and efficiently;
- selecting a preferred option;
- developing an implementation plan for the preferred option, addressing all material issues of concern, external and internal to the organization; and
- developing a monitoring plan to provide feedback on the status of the implementation plan, and the achievement of desired outcomes.

The SYP adopted in 1995 possessed many of these characteristics. It was not only the first strategic plan for the Transit Division since the County and Metro were merged, it was also the first multi-year plan for transit services in over a decade.

The SYP, discussed in the preceding section, was effective in the front end of the strategic planning process. The plan established a new direction for transit service, in recognition of changes in markets since the time the prevailing route structure was developed (i.e., multiple, dispersed destinations). The plan also included greater allocation of resources to operating programs, which enabled a significant expansion of service. The operational elements of the plan were directly, and accurately, incorporated in the financial plan and budget development processes.

On the back end of the strategic planning process, however, the SYP fell short in several areas. These included: (i) a lack of specificity for capital projects, especially with regard to implementation schedule and linkage to new services; (ii) assessment of internal capacity to implement the plan; (iii) development and use of feedback systems; and (iv) evaluation and update of the plan.

The languishing of the plan update, which is in part a feature of transferring responsibility for the plan to an external division, has encouraged the Transit Division to engage in ad hoc activities that should be part of a strategic planning effort. These include integration of County transit services with Sound Transit, and a separate planning exercise for maintenance facility expansion. These types of ad hoc planning activities should cease to exist with a commitment to a strategic planning process.

Overall, the SYP presents a good point of departure for instituting a strategic planning process for the County's transit services. The planning process should be replicated, since it apparently worked well (i.e., desired results were achieved). The implementation, managerial, and evaluative aspects of the plan need to be improved, however. Because these deal primarily with the internal workings of the Transit Division, it is essential that this process be managed by the Transit Division, as recommended in the preceding section.

ROLE OF AGENCY MANAGERS

The Transit Division relies on a decentralized management structure to formulate its programs and to monitor its progress against plan. This structure was examined in the *Finance and Budgeting* and *Internal Controls* sections of this chapter. By design, the Division's managers are closely involved in the development of transit goals, and in implementing County directives.

This decentralized approach is very efficient for operational decisions — those closest to the need for a decision have the authority to act. This model is appropriate for transit operations, which by nature involve a decentralized set of decision points. Consider, for example, the number of buses in operation at any point

during the day, and the need for rapid response to schedule exceptions. A centralized management structure would introduce delay and discourage initiative by lower-level managers and supervisors.

This decentralized approach does have potential drawbacks, however, for strategic planning. One is an inability to consider the collective effort needed to implement a service strategy. A good example, with respect to the current SYP, is the shortage of part-time operators (PTOs) that has been created by having to transfer PTOs to full-time status to fill the scheduled assignments for new service. Anticipating this outcome could have led to a different implementation schedule, or a reassignment of resources to enable the full-time operator positions to be filled without drawing down the ranks of PTOs. Another drawback is the lack of feedback systems, a situation that is indirectly encouraged by extensive delegation of authority. A good example here is the difficulty in implementing the Hubs program (i.e., a series of transfer centers) according to the original schedule. Although these delays were identified in the audit, the extent of delay was not made known to us in interviews, and was not acknowledged by Division management until our findings were clearly made. This proves the value of feedback systems in providing early warning of departure from the implementation component of the strategic plan.

The best of all worlds for the Transit Division would be to involve its managers in the formulation of the strategic plan, including an assessment and sign-off on the resources needed for implementation, and the feedback systems needed to monitor progress and effectiveness. This should be considered as part of an expanded strategic planning process to guide the continuous refinement of transit services, facilities, and management.

EXPANDED STRATEGIC PLANNING PROCESS

An expanded strategic planning process would very likely have a positive impact on resource allocation. It is clear that the best elements of the 1995 SYP — a change in market focus, and a fairly specific service implementation plan — provided a focus for Transit Division efforts that yielded positive results. It is reasonable to expect that a similar focus on supporting activities would achieve similar results. This is because greater focus provides better direction, ensures greater accountability, and provides a basis for a more definitive measurement of progress.

The terms six-year plan, strategic plan, and business plan should be considered synonymous — all refer to a plan of management action that is needed to guide the refinement of transit services. For this plan to be effective, it needs to integrate service strategies, capital facilities, management responsibility, and financial resources into a measurable whole. This product would serve as a useful communication document for the Division, the Executive, and the Council, and would help ensure mutual expectations among these parties.

CONCLUSIONS: STRATEGIC PLANNING

- The SYP was effectively a strategic plan, and serves as a reasonable point of departure for a plan update. A strong commitment to a strategic planning process is necessary to achieve the potential benefits of an integrated plan.
- The decentralized management structure of the Transit Division is very effective for operational decisions, but has inherent drawbacks for developing and implementing a strategic plan. Although the active participation of Division managers is essential to devising a practical plan, the need exists for a central staff to guide this effort. The Finance and Budget section would be a good candidate for this role (see recommendation 6.9).
- The County would very likely benefit from an expanded strategic planning effort. The six-year plan should be viewed as the strategic plan and the business plan for the Transit Division — these labels are synonymous. Since the product of this exercise would be binding for the management of the Transit Division, they should be responsible for its development (see recommendation 6.17).

RECOMMENDATIONS: STRATEGIC PLANNING

We are making no recommendations specific to strategic planning. Recommendations made in the sections titled *Six-Year Planning Process* and *Finance and Budgeting* respond to the findings presented above.

Organizational Assessment

This final chapter of the audit report responds to a broad question posed in our scope of work: *does the current organization structure of the Transit Division support the mission and goals statement of the Division?*

Our organizational assessment focuses on changes that are necessary and appropriate to realize better outcomes in the areas examined in the audit. These changes primarily address the relationship of the transit function to the rest of the County government, including other divisions of the Department of Transportation, and some changes internal to the transit function to improve financial control by the management of the Transit Division. We did not specifically examine the internal organization of the Transit Division, except as ordained by findings presented in the prior chapters of this report.

The organizational structure now in place provides the Transit Division with most of the resources necessary to achieve its basic mission and goals, but the lack of control over a number of administrative and support activities has unduly complicated the management of the Division, with no apparent gain for the County. Although transit's effectiveness and efficiency have improved, we attribute these results primarily to new transit service policies, improved Council oversight, stringent operating budget controls, and the diligence of Transit Division management. These improvements appear to have occurred in spite of a more complicated organization in which the service and responsiveness of support functions has declined.

We recommend that the County make transit a separate department. Transit serves more County residents every day than any other County function. It has demanding operational parameters — such as adhering closely to a finely detailed schedule — and poses unusual management requirements. It would form the largest department within the County. We believe that making transit a separate department would result in three important changes:

- it would elevate the priority transit receives in the development of Executive policy;
- it would provide a more direct route for resolving operational problems that span the responsibility of two or more departments; and
- it would sharpen the focus of transportation management to an area where the County has predominant control (transit) from an area where it has comparatively lower standing (multimodal transportation).

This change would take some time to effect, and there are collateral issues to consider (e.g., County-wide transportation planning). In the meanwhile, there are several organizational changes of limited scope that should be made. These recommendations are listed at the close of this chapter.

BACKGROUND

This section describes the evolution of the current organization structure, and describes the scale of transit activities in relation to the County as a whole.

EVOLUTION OF THE CURRENT ORGANIZATION STRUCTURE

The current organization structure for policy-making, managing, administering, planning, and delivering King County's transit services is a work-in-progress, as the transition from the former Seattle Metro to the County's Metro Transit evolves.

The merger of Seattle Metro into the County left the former Metro transit department largely intact, but affected several important support and administrative functions. A summary of the post-merger disposition of is presented in Exhibit 7.1 (page 7-3).

Metro was organized into five departments:

- Executive;
- Transit;
- Water Quality;
- Technical Services; and
- Finance & Administration.

Transit and Water Quality, the line departments, were functionally independent of one another. The others provided various services that were used by both the line departments. Technical Services provided environmental planning, contract administration, information systems, design, and construction oversight services.

Finance and Administration provided budget, accounting, purchasing, and administrative services. It traditionally included Human Resources as well, though just before the merger this function was elevated to be an independent department. Other support services were housed in the Executive department, including legal, audit, and government relations.

Exhibit 7.1
Post-Merger Disposition of the Metro Organization

Metro Department	Division	Post-merger disposition
Metro Council		Eliminated. Replaced by an expanded County Council.
Executive	Executive	Eliminated. County Executive serves as the executive in charge of municipal services.
	Legal	Transferred to County Prosecutor's Office.
	Audit	Responsibilities assumed by County Auditor, Executive Audit; some audit functions remain in the DOT.
	Community Relations	Transit-related community relations transferred to the Community and Administrative Services Division of the DOT.
Transit	Base Operations	Intact; now a section within the Transit Division.
	Vehicle Operations	Non-revenue vehicle maintenance transferred to Fleet Administration Division, DOT. All other functions left intact as a section in the Transit Division .
	Power & Facilities	Intact; now a section within the Transit Division.
	Service Development	Accessible services moved to a new section in the Transit Division; otherwise left intact as a section of the Transit Division.
	Sales & Customer Service	Vanpool and rideshare services moved to a new section in the Transit Division; otherwise left intact as a section of the Transit Division.
Finance	Accounting	Transferred to Dept. of Finance.
	Accounts payable & receivable	Transferred to Dept. of Finance.
	Budget & Grants	Transit budget functions distributed within the Transit Division of the DOT; budget oversight exercised by Office of Budget; grants to Transportation Planning Division, DOT.
	Human Resources	Responsibilities split between Transit Division and Office of Human Resources.
Technical Services	Design & Construction	Transit-related functions moved to new Design & Construction section in the Transit Division.
	Contract Administration	Transferred to Dept. of Finance.
	Environmental Planning	Moved to Technical Support group within the Design & Construction section, Transit Division.
	Information Systems	Transit-specific applications support and local-area network support moved to new Management Information and Transit Technology section , Transit Division. Other support moved to Dept. of Information & Administrative Services.
Water Quality		WQ-specific functions moved to Wastewater Division of the Dept. of Natural Resources.

The internal structure of the Transit Department was left largely intact when Metro was merged into the County. The common elements of the two organizations, pre- and post-merger, comprise the core Transit workforce and functions:

- base operations;
- revenue vehicle maintenance;
- power and facilities;
- service development; and
- sales and customer service.

Today, these functions account for about 93% of the transit workforce.

Several changes have been implemented within the Transit Division since the merger. A new section was created to administer Accessible and Vanpool services. Accessible services were formerly in Service Development, while Vanpool was formerly in Sales & Customer Service. Also, nonrevenue vehicle maintenance, formerly part of the Vehicle Maintenance division of Metro, was transferred to the new Fleet Administration Division in the County DOT.

Another section — capital planning — was eliminated, and its functions were distributed among the Transit Division, the DOT Transportation Planning Division, and the DOT Community and Administrative Services Division. Within the Transit Division, responsibility for capital projects is assigned according to the unit eventually having operating responsibility. For example, Vehicle Maintenance is responsible for fleet planning, Power & Facilities is responsible for operations base planning, and Service Development is responsibility for passenger facilities and speed & reliability improvements. The assignment of projects to other units of the DOT reflects other considerations. The Transportation Planning Division is responsible for some park & ride lot projects, and is currently charged with long-range capital planning and development of the six-year plan. Transit-oriented development projects are managed by the DOT Community Relations and Administrative Services Division, as well as some other capital projects classified as "miscellaneous" in the capital improvement program.

Other changes made to effect the merger can be put into three general categories, described below.

SUPPORT FUNCTIONS ABSORBED WITHIN COUNTY DEPARTMENTS OTHER THAN THE DOT

Functions that were moved from Metro and assigned to central county departments, and were not replicated in any form within the Transit Division include accounting, purchasing, risk management, workers compensation, and benefits, contract administration, legal services, government relations, and various administrative support services.

TRADITIONAL METRO SUPPORT FUNCTIONS TRANSFERRED TO THE NEW TRANSIT DIVISION

Several functions that previously resided in Metro's Technical Services Department were moved to the Transit Division.

- The Transit Design and Construction section, which is new, includes Technical Support (environmental planning and R-O-W), Construction Group, Program and Project Management, and the Design and Engineering Group.

- The Research and Market Strategy section, now known as Management Information and Transit Technology, was expanded to include support for transit-specific information systems. In conjunction with

this move, the section was also expanded to include other automated information activities, such as GIS applications, automatic passenger counters, and automatic vehicle location systems.

TRADITIONAL METRO SUPPORT FUNCTIONS NOW DIVIDED BETWEEN THE TRANSIT DIVISION AND OTHER COUNTY ORGANIZATIONAL UNITS

Responsibility for several other functions tends to lie on the boundary between the Transit Division and the DOT, or between the Transit Division and other County departments, including:

- Nonrevenue vehicle maintenance, formerly a responsibility of Vehicle Maintenance, was moved to the DOT Fleet Administration Division. Because that Division is not a 24 hour a day operation, however, the Transit Division tends to perform some nonrevenue vehicle maintenance so that vehicles can be available when needed on nights and weekends.

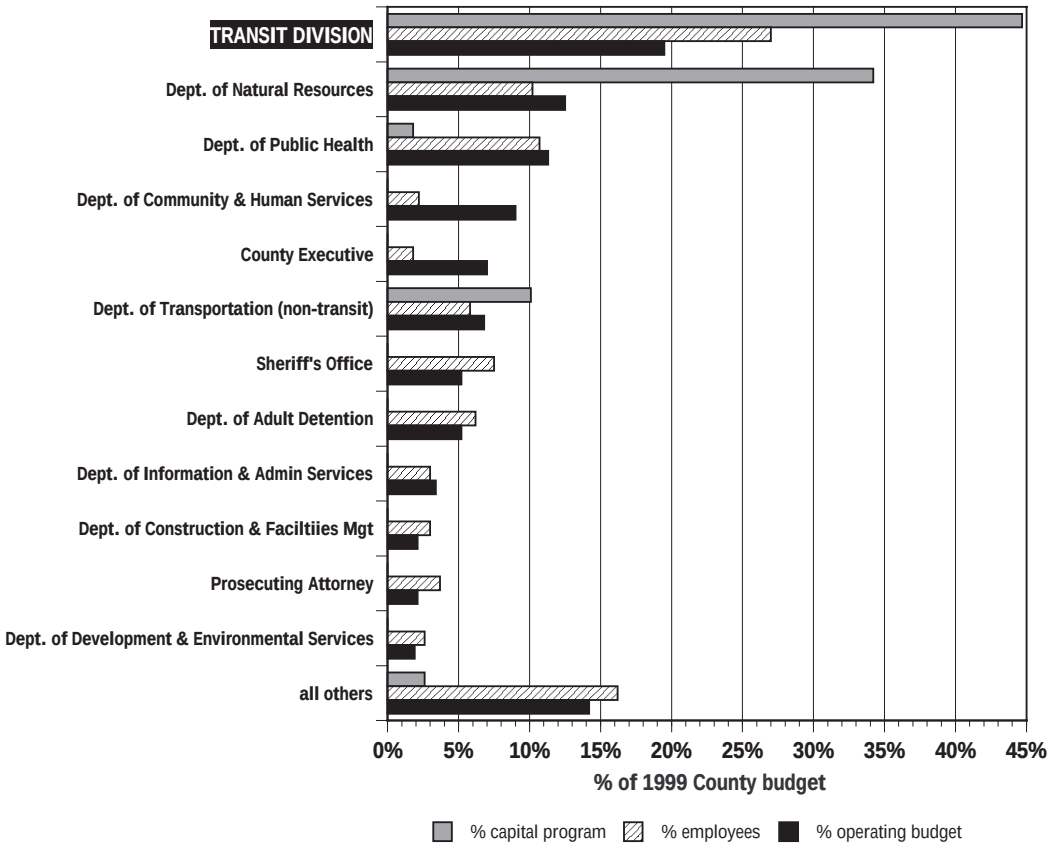
- Personnel administration activities are handled principally by the Human Resources unit in the Division General Manager's office. Policy direction and some personnel administrative operations are handled by the County's Office of Human Resources Management or by the Labor Advisor to the County Executive.

- Community Relations, formerly located in the Transit Director's office under Metro, is now part of the DOT Community and Administrative Services Division. It is an active part of transit planning activities performed by the Service Implementation unit within Service Development.

- Capital Planning is performed by several units within the Transit Division, and by the Transportation Planning Division of the DOT. That division is also responsible for developing the six-year Transit Development Plan, which was formerly prepared by Metro's Service Development section.

Most of the difficulty in implementing policy, as well as the source of Metro Transit manager concerns, revolve about the functions that are provided wholly or partially outside the Transit Division (with some exceptions, such as legal services and internal audit). A summary of the managers' perceptions was presented in chapter 1 (see Exhibit 1.2). These external relationships can affect mission-critical functions (e.g., parts availability); their improvement should be a high priority of the County. For additional information, see the organizational assessment, below, and chapter 1 (section titled *Impact of County Policies on Transit*).

Exhibit 7.2
Trasit Division's Share of County Operating Budget, Employees, and Capital Program



SCALE OF TRANSIT ACTIVITIES IN RELATION TO THE COUNTY AS A WHOLE

A comparison of the Transit Division to other elements of the County organization is presented in Exhibit 7.2 (above).

Transit is the single-largest function in the County government. It comprises the largest share of operating expenses (20%), employees (27%), and capital program expenditures (45%) in the 1999 County budget. These shares are larger than any other County department, and dwarf the non-transit programs in the County DOT.

In addition to its size, several other aspects of transit services are notable. First, transit probably has more contact with other jurisdictions within the County than any other County function. The transit system operates throughout the County, and has active construction projects in most cities within the County. Both require

close cooperation with the jurisdictions owning the right-of-ways on which the service is operated. Second, the transit workforce is represented by a number of transit-specific unions, each having a long history of collective bargaining with management of the transit division. Finally, transit is the only County service that must adhere to a finely detailed schedule on such a broad span of operations. This means that all operational and equipment resources must be available when needed for transit to fulfill its mission.

For these reasons, the impact of County policy on transit should be carefully considered when policies are being formulated. In forums where transit is a priority (e.g., the Regional Transit Committee), policies have been implemented effectively. In forums where transit is perceived as just another County function, there are a number of examples where transit has been adversely affected (see Chapter 1, section titled "Impacts of County Policies on Transit"). Operational needs that are specific to transit must be taken into account from both a policy and organizational standpoint.

ASSESSMENT OF ORGANIZATIONAL EFFECTIVENESS

The question posed in the scope or work is whether the current organization supports the achievement of the mission and goals of the Transit Division. The current organization has clearly achieved some laudable results. In our opinion, however, based on interviews with Division and other County staff, as well as other quantitative analyses presented elsewhere in this report, there is certainly room for improvement.

The current organizational structure has in it many weaknesses that are inherent in the process of taking an independent operating agency and trying to meld it into a general purpose government. The fundamental question is whether this structure itself is an impediment to the effective achievement of the mission and goals of the Division.

None of the transition documents state the explicit objective in creating the existing structure and division of responsibilities. The current structure is apparently designed to achieve a distribution of activities along these lines:

- Maintain an operating division with the activities that are essential to the delivery of services, and decentralize maintenance and transportation management within the division
- Integrate the county's roads and transit planning to achieve synergy in the planning of those transportation services
- Centralize the performance of most administrative and support activities at the county level to achieve cost reductions in these overhead functions.

As noted in the prior section, activities that are shared between transit and the DOT, or with other County units, are perceived by Transit Division management to be problematic, and sufficient ad hoc evidence exists to support this perception. We believe that these problems are rooted in conflicting views, and perhaps missions, of the parties. This can be attributed in part to the preference of County administrators to apply pre-existing County policies to the administrative activities of the Transit Division, rather than attempting to understand the interests of the Division and make appropriate changes that may benefit both the County and the Division.

A number of considerations call the current organizational structure into question:

- Transit operations do not have the functional or operational affinity to the management of County roads that is the policy basis for the making it a part of the Department of Transportation.
- The Transit Division employs a large percentage of the overall county employment, and consumes a large percentage of the operating and capital budget, but is not represented at the Cabinet level in the Administration.
- The management of transit services is a specialized technical enterprise that is not adequately recognized in the provision of support and administrative activities.
- The Division has administrative and procedural requirements that have not been well-served by the County to date, and the Division's General Manager does not have the internal leverage to resolve the problems created by the actions of County central staff.
- The application of County policy, financial, and operational control is not well served by the current structure.
- The Division does not have the internal resources to plan for its mission and goals, and to monitor their achievement.

The major improvement that is needed is the delivery to the Transit Division of a variety of administrative and support services now provided by County central staff or by a shifting mixture of central and Transit Division staff. Lines of reporting need to be clarified, and customer-client relationships need to be established between Division managers and their counterparts in other departments.

ORGANIZATIONAL OPTIONS

There are several organizational options for improving the delivery of administrative and support services to Transit. These range from creating a functionally separate transit organization, to making minor changes in the organization of the Transit Division, supported by client-service staff committees. The pros and cons of each option are described below.

CREATE A SEPARATE LEGAL ENTITY OPERATING PURSUANT TO COUNTY POLICY

The County could create a separate legal entity operating under the transportation and financial policies of the County, along the lines of the Public Facilities District. This would have the benefit of serving the County's transportation and development policies, and would retain financial controls by the County, but would disentangle the Transit Division from the County's administrative and accounting procedural complexities while still operating under general county policies. This concept would preserve the parts of County oversight that have worked well, while allowing administrative practices and procedures to be tailored to the needs of transit service.

This option would require considerable redirection or re-creation of administrative infrastructure, however. Given that the overall performance of transit has been improving, such a drastic change does not seem practical.

CREATE A TRANSIT DEPARTMENT

The County could create a separate Transit Department that is responsible for all aspects of transit operations, capital programs, and business planning and management. The General Manager would report to the County Executive, and be responsible to the Executive for the performance of the department.

The advantage of this option is its clarification of responsibility for transit, and the acknowledgment that transit is a critical stand-alone function. Elevating transit to a department level would increase the County's awareness of transit performance, and would provide a more effective forum to advocate transit interests in the formulation of County policy.

The main impediment to implementing this option is the political investment that has been made in a multi-modal approach to transportation planning and management. We observed in chapter 6 of this report that the multi-modal planning and policy development could be separated from the business management of the transit function, thus allowing both objectives — multi-modal integration and transit-focused management — to be accomplished simultaneously.

This concept is similar to that employed by Milwaukee County, Wisconsin, the only other system in the peer group that is owned and operated by a general purpose county government.

Milwaukee County has achieved an effective and efficient transit operation through an organizational arrangement whose major characteristics include:

- Policy and financial oversight by the County, with the Transit Committee of the County Council functioning as the de facto transit board
- The Transit system is governed by the financial and service policies of the County.
- The County provides some support services, such as legal support and capital program management.
- The Transit System manages its own financial, accounting, procurement, personnel, risk management, and other administrative activities.
- Planning is divided among the regional planning agency, the County, and the transit system management.
- Collective bargaining and labor relations are carried out by the transit management, under the financial guidelines of the County.

Although the final form of a Transit Department for King County would need to be tailored to local circumstances, Milwaukee County presents a good example of combining county policy oversight with organization and management systems that are optimized for transit operations.

CENTRALIZE PLANNING AND CONTROL FUNCTIONS WITHIN THE DOT

The Transit Division currently functions much like a stand-alone department, though its lines of reporting and allocation of some shared functions (e.g., planning, capital program management) suggests this is not truly the case. If the DOT concept is to work effectively, the DOT should centralize planning and control functions under the direct control of the Director's office.

This would involve creating a satellite administrative and support group within the DOT to support the activities within the DOT including the Transit Division, with responsibility for the accounting, general ledger maintenance, accounts payable, payroll, procurement, human resources, and related administrative activities in support of the DOT functions. The administrative and support group would be responsible for ensuring that all human, equipment, and financial resources are available to the operating divisions for them to achieve their missions. The divisions within the DOT, including transit, would then be responsible only for operations and short-term operating and capital planning.

This option would require a significant shift of resources away from the existing DOT divisions, and would require the development of a new management concept. These changes would take a long time to implement, and would be very difficult to implement unless a multi-modal management concept — now lacking — could be clearly articulated. For these reasons, we do not believe this option is viable.

CENTRALIZE PLANNING AND CONTROL FUNCTIONS WITHIN THE TRANSIT DIVISION

This option entails creating a satellite administrative and support group within the Transit Division, reporting to the General Manager of the Division and responsible for the accounting, accounts payable, payroll, procurement, human resources, and related administrative activities in support of the Division. The responsibility for all transit programs would thus reside in the Division. This would narrow the span of management control of the DOT Director's office, which would focus primarily on plan versus actual results, and representing transit interests in interdepartmental forums.

This option would likely achieve some improvement in the delivery of administrative and support services, but would not by itself improve the advocacy of transit interests in the development of County policy and administrative practices.

CONCLUSIONS

- The Transit Division's operating activities are functionally distinct from other county departments, both in the size and the nature of its activities.
- The pairing of roads and transit is an administrative convenience for the County, but the two activities have limited functional affinity.
- The division of responsibilities between the Transit Division and the central administrative units is plagued by a lack of mutual understanding and common purpose.
- Division managers often see the application of County administrative procedures as arbitrary and unilateral, and sometimes adverse to the interests of the County.
- The managers of the central administrative functions do not see the Transit Division managers as their clients.
- County managers tend to perceive the Division managers as resistant to change, overly protective of the historic practices of the Division, and inclined to exaggerate the special nature of the needs of the Division.

- The administrative activities of the Division are not unlike those of the County as a whole – but there are some real differences that need to be understood and accommodated in the development and application of county administrative practices.

RECOMMENDATIONS

The recommendations in this section assume the continuation of the basic post-merger policy for the management and delivery of the County's transit services.

7.1 *The County should create a separate Transit Department that is authorized to manage all transit programs and implement all County policies that are transit-specific.* The Transit Department should report directly to the County Executive, or his/her designee. The department should be directly responsible for the Public Transportation fund, and should be delegated authority for all transit-specific administrative practices.

We recognize that this recommendation will require considerable discussion, and is likely to take some time to implement. In the meanwhile, the remaining recommendations listed below should be implemented to fine-tune the current organizational structure and division of responsibilities, and enhance the ability of the General Manager to manage the division:

7.2 *A new Finance and Budget Section should be created in the office of the General Manager, with responsibility for developing and overseeing conformance with financial plans and budgets.* Additional considerations with respect to this recommendation are presented in chapter 6 (see recommendations 6.9, 6.10, and 6.11)

7.3 *The General Manager and his staff should be responsible for the development and implementation of the Six-Year Plan, in partnership with the other transportation department officials.* The Six-Year Plan should become the focal point of the Transit Division's management, financial, service, and capital planning. The scope of the Six-Year Plan should be broadened to include a Management Plan, including such elements as management development and succession planning, organizational development, personnel and labor planning, maintenance operations planning, and performance planning.

7.4 *The General Manager should be responsible for identifying and leading the resolution of interdepartmental support problems, working with the appropriate administrative division managers.*

7.5 *The General Manager should have a staff assistant who is an expert in county administrative procedures, whose job should be to lead the technical effort to resolve these issues.*